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# THE REVIVAL OF AMERICAN BUSINESS

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## The Revival of American Business

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## APPENDIX

*Editor in Charge,* CLYDE L. KING

# Balance Sheet of Business

"What, in six words, is the general condition of business?" This is doubtless a legitimate question,—perhaps easier to answer for oneself in one word than in six. However, the basis for an answer is suggested in the following summary which reflects the views of a large number of business men on or about August first.

| Resources | Liabilities |
|---|---|
| **Crop Yield**<br>*Average or better except cotton* | **Volume of Business**<br>*Average reported one-third below '20* |
| **Prices**<br>*Increasing stabilization of general price level* | **Prices**<br>*Some too high, others too low in relation to general level* |
| **Money Rates**<br>*Commercial paper rates lower*<br>*Capital terms easing* | **Taxation**<br>*High rate*<br>*Uncertainty* |
| **Wage Rates**<br>*Reduced—downward tendency* | **Labor Costs**<br>*Too high in relation to output* |
| **Bank Reserves**<br>*Stronger* | **Management**<br>*Waste* |
| **Business Failures**<br>*Tendency to decline* | **Business Failures**<br>*Still too numerous* |
| **Stocks of Merchandise**<br>*Reported seasonally small except in particular lines* | **Foreign Trade**<br>*Reduction in exports*<br>*Maladjustments of business at home and abroad*<br>*Dislocation of exchange rates*<br>*European fiscal policies*<br>*International jealousies* |
| **Transportation**<br>*More efficient*<br>*Government settlement promised* | **Transportation**<br>*Rates too high*<br>*Uncertainty* |
| **Raw Materials**<br>*Plentiful* | **Tariff**<br>*Unsettlement* |
| **Psychology**<br>*Self-delusion reduced* | **Government Policy**<br>*Too much government in business* |

# The Meaning and Manner of Business Revival

## Complementary Facts and Findings

By the Editor-in-Charge

WHOEVER thinks that business revival means the return of such profits as accompanied the rise of prices from October, 1915 to May, 1920, is destined to disappointment, if not grief. It can be assumed that any revival of business in the United States will be worked out under a capitalistic

order and that the institution of private property will underlie the processes of producing and apportioning the national income. The mandate of the last presidential election and the weakened position of Bolshevism are sufficient warrant for such an assumption. But assuming a continuation of the capitalistic order is very different from assuming a return of war orders for American goods.

## THE MEANING OF BUSINESS REVIVAL

To those who think in terms of credit cycles, business revival means the beginning of a long swing movement of business expansion. Though day to day fluctuations in business deserve noting, as do seasonal changes, the revival of business means, rather, the beginning of a distinct phase of a credit cycle which requires several years to work out.

The earmarks of the expansion phase of a credit cycle are familiar. Prices rise. Expenses do not keep pace with the rise in commodity prices. Business is therefore profitable. Encouraged by larger profits, business men increase bank loans. They add to buildings and equipment. They get their businesses into an unliquid condition. But for the time, business is good.

The contraction phase of the credit cycle is all too familiar. Expansion cannot go on indefinitely. Bankers are forced to refuse or discourage loans in order that reserves may not be impaired. Many business men, expecting to renew loans, find that they cannot do so. They are required to begin liquidating their obligations. For those who cannot borrow or liquidate, bankruptcy is the next step. A reaction from good times is earmarked by falling prices. Expenses lag behind prices; profits decrease and inventories disclose losses. Unemployment comes. Business is depressed. With smaller profit comes a contraction in ambitions for new ventures and activities. There is difficulty in borrowing, reluctance to make commitments and greater care in management.

In the past business contraction has been self-limiting. With a reduction in loans and consequent increase of reserves, banks were led to make terms easier. Efficient concerns built up a new credit structure. Gradually borrowers became ready for new activities. Failures declined and employment picked up. Prices became more stable and foreseeable. They even began to rise. Business became profitable. This is a description of what has happened when American business has revived after depressions of the past. It is the situation that is usually indicated by those who look forward to the revival of American business. However, to those who think of business revival as involving something more than the immediate situation, that is, the fundamental causes of business activity and national prosperity, this volume, in spots at least, may be suggestive.

## REVIVAL PREDICTIONS ARE HAZARDOUS

What business revival means is reasonably well understood. Interest centers rather about the time when revival is to come. Business revival does not shoot up over night. It is therefore necessary to serve notice that the editor-in-charge has made no attempt to conduct a soothsaying department, particularly as manuscripts were sought over two months before the release date of this volume. Soothsaying is hazardous.

If business revival were now a matter of history's repeating itself with mathematical accuracy, a statistical chart would be more serviceable than pages of discussion. Statisticians have predicted the time of business revival.

*The Review of Economic Statistics*, published by the Harvard University Committee on Economic Research, stated on October 25, 1920, "We conclude that the liquidation in commodity markets will come to an end about ten months from last June, the month when interest rates reached their peak, or by April, 1921." In the January 25, 1921 number the *Review* began to hedge. As late as April 25, 1921, the *Review* stated that "the movements for March of the curves of our index chart give us grounds for believing that the period of general declines of business and commodity prices may be near its end." By May 25, however, the *Review* concluded that "there is nothing in the latest movements of the three curves to indicate how soon the final readjustments will come to an end. This will depend principally on the movements of Curve C, rates of commercial paper, or rather on the conditions which these rates reflect."

The appointed time for business revival has come and gone. The business situation is still spotted (in August). Something is wrong. The statistics used are as reliable as any available. But a monkey-wrench has been thrown into the statistical machinery. Call it the unpredictable new factors growing out of the war, the "vagaries of the social mind," the operation of the Federal Reserve System or anything else—the fact remains that new factors or new combinations of factors, or both, have upset the assumption of history's repeating itself with the mathematical certainty that makes prediction possible.

### STATISTICAL DATA NOT TO BE DISCARDED ENTIRELY

Though statistical forecasting of business revival is almost as dangerous as playing "hunches," statistics do show trends of development and are not to be discarded entirely. Just as the control of big business is a statistical control, so too must anything more than a "feeling" about business trends be based on the widest possible observations. Such observations are statistical. The trend of data on wholesale and retail prices, interest rates, money rates, security values, foreign exchange, imports and exports, railway tonnage, business failures, unemployment, wage scales, bank reserves and clearings are still to be noted and interpreted.

That the drop in prices has been world wide is shown in Table IV, page x. It is a hopeful sign that the fall in the general level of prices in the United States is slowing down.[1] It will be a still more hopeful sign when the index numbers of particular classes of commodity prices show less spread from the "all commodity" index number. Then one of the most important harbingers of business revival will have come. Diminution of spread will mean that the relation of businesses to one another is approaching, or has reached, an equilibrium. The actual trend of wholesale prices, up to press time, can be noted in Table I following.

Retail prices always lag behind a drop in wholesale prices. They are of interest chiefly in connection with the cost of living.[2] The figures on page viii are therefore of interest. Food constitutes a very large percentage of the

[1] The index numbers published by commercial reporting agencies for July show a slight increase. The Bureau of Labor Statistics' all commodity index number of wholesale prices was 148 for July, showing no change as compared with the June number. It seems safe, therefore, to say that a pause at least has come in price recession in the United States. Newspaper reports show that the same situation obtains in Britain.

[2] Changes in cost of living in the United States from June and December, 1920 to May, 1921 are detailed in the July, 1921 number of the *Monthly Labor Review*, page 105 ff.

TABLE I

INDEX NUMBERS OF WHOLESALE PRICES, BY GROUPS OF COMMODITIES (1913 EQUALS 100)

| | 1917 | 1921 | | | | | | 1920 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Jan.** | *June* | *May* | *April* | *March* | *Feb.* | *Jan.* | *Dec.* | *Nov.* | *Oct.* | *Sept.* | *Aug.* | *July* | *June* | *May* |
| Farm products | 148 | 113 | 117 | 115 | 125 | 129 | 136 | 144 | 165 | 182 | 210 | 222 | 236 | 243 | 244 |
| Food, etc. | 150 | 132 | 133 | 141 | 150 | 150 | 162 | 172 | 195 | 204 | 223 | 235 | 268 | 279 | 287 |
| Cloths and clothing | 161 | 180 | 181 | 186 | 192 | 198 | 208 | 220 | 234 | 257 | 278 | 299 | 317 | 335 | 347 |
| Fuel and lighting | 176 | 187 | 194 | 199 | 207 | 218 | 228 | 236 | 258 | 282 | 284 | 268 | 252 | 246 | 235 |
| Metals and metal products | 183 | 132 | 138 | 138 | 139 | 146 | 152 | 157 | 170 | 184 | 192 | 193 | 191 | 190 | 193 |
| Building materials | 106 | 202 | 202 | 203 | 208 | 221 | 239 | 266 | 274 | 313 | 318 | 328 | 333 | 337 | 341 |
| Chemicals and drugs | 159 | 166 | 166 | 168 | 171 | 178 | 182 | 188 | 207 | 216 | 222 | 216 | 217 | 218 | 215 |
| House furnishing goods | 132 | 250 | 262 | 274 | 275 | 277 | 283 | 346 | 369 | 371 | 371 | 363 | 362 | 362 | 339 |
| Miscellaneous | 138 | 150 | 151 | 154 | 167 | 180 | 190 | 205 | 220 | 229 | 239 | 240 | 243 | 247 | 246 |
| All commodities | 151 | 148 | 151 | 154 | 162 | 167 | 177 | 189 | 207 | 225 | 242 | 250 | 262 | 269 | 272 |

Compiled by the Bureau of Labor Statistics.

* The January, 1917 index numbers are shown because the all commodity index number for that month is nearest the all commodity index number for June and July of 1921. A comparison of the group index numbers for January, 1917 and June, 1921 is enlightening. It will be recalled that the sharp rise in the price level began in October, 1915, and that the peak was reached in May, 1920. The June all commodity index number [148] shows a 45.5% decline from the peak. The July all-commodity index number was also 148.

TABLE II

| | Index numbers of wholesale prices all commodities | Index numbers of retail prices of the twenty-two principal articles of food in the United States; all articles combined |
|---|---|---|
| 1920 | | |
| May | 272 [Peak] | 215 |
| June | 269 | 219 [Peak] |
| July | 262 | 219 [Peak] |
| August | 250 | 207 |
| September | 242 | 203 |
| October | 225 | 198 |
| November | 207 | 193 |
| December | 189 | 178 |
| 1921 | | |
| January | 177 | 172 |
| February | 167 | 158 |
| March | 162 | 156 |
| April | 154 | 152 |
| May | 151 | 145 |
| June | 148 | 144 |
| | 45.5% decline from peak | 34.2% decline from peak |

Compiled by the Bureau of Labor Statistics.

family expenditures of most wage earners' families.

The trend of commercial paper rates is regarded by statisticians as one of the most significant of the indices of business revival. Commercial paper rates, at the time of writing, stood as indicated below.

Foreign exchange rates are likely to be governed chiefly by price levels ruling in different countries. The parity of exchange is likely to be a

TABLE III

| | Rate on four-to-six months paper (Units of one per cent) | | Rate on sixty-to-ninety day paper (Units of one per cent) | |
|---|---|---|---|---|
| | 1920 | 1921 | 1920 | 1921 |
| January | 6.06 | 7.94 | 6.00 | 7.81 |
| February | 6.53 | 7.88 | 6.41 | 7.75 |
| March | 6.88 | 7.75 | 6.68 | 7.62 |
| April | 6.97 | 7.72 | 6.81 | 7.56 |
| May | 7.38 | 7.15 | 7.16 | 6.92 |
| June | 7.95 | 7.03 | 7.72 | 6.69 |
| July | 8.09 | .... | 7.84 | .... |
| August | 8.25 | .... | 8.00 | .... |
| September | 8.16 | .... | 7.97 | .... |
| October | 8.12 | .... | 8.00 | .... |
| November | 8.08 | .... | 7.92 | .... |
| December | 8.00 | .... | 7.88 | .... |

Harvard Economic Review, June 25, 1921, p. 139.

TABLE IV. PROCESS OF DEFLATION IN PRINCIPAL COUNTRIES

| | United States: Bureau of Labor Stat.; 328 commodities (variable) | Canada: Dept. of Labor; 272 commodities (variable) | United Kingdom: Economist; 44 commodities | France: Statistique Generale; 45 commodities | Italy: Riccardo Bachi; 38 commodities until end of 1919; thereafter 76 commodities | Netherlands: Central Bureau voor de Statistick; 49 commodities | Sweden: Svensk Handelstidnings; 47 commodities | Australia: Bureau of Census and Statistics; 92 commodities | New Zealand: Census and Statistics Office; 140 commodities |
|---|---|---|---|---|---|---|---|---|---|
| 1920 | | | | | | | | | |
| January | 248 | 250 | 288 | 487 | 508 | 293 | 319 | 203 | 190 |
| February | 249 | 254 | 303 | 522 | 557 | 289 | 342 | 206 | 194 |
| March | 253 | 258 | 310* | 554 | 602 | 290 | 354 | 209 | 202 |
| April | 265 | 261 | 306 | 588* | 664 | 296 | 354 | 217 | 205 |
| May | 272* | 263* | 304 | 550 | 660 | 297 | 361 | 225 | 206 |
| June | 269 | 258 | 291 | 493 | 632 | 297 | 366* | 233 | 205 |
| July | 262 | 256 | 292 | 496 | 604 | 301* | 364 | 234 | 215 |
| August | 250 | 244 | 288 | 501 | 625 | 289 | 365 | 236* | 215 |
| September | 242 | 241 | 284 | 526 | 655 | 288 | 362 | 230 | 216 |
| October | 225 | 234 | 266 | 502 | 659 | 283 | 346 | 215 | 218* |
| November | 207 | 225 | 245 | 460 | 670* | 261 | 331 | 208 | 214 |
| December | 189 | 214 | 220 | 435 | 655 | 233 | 299 | 197 | 214 |
| 1921 | | | | | | | | | |
| January | 177 | 208 | 209 | 407 | 642 | 213 | 267 | 196 | 212 |
| February | 167 | 199 | 192 | 376 | 613 | 201 | 250 | 192 | ... |
| March | 162 | 194 | 189 | 360 | 604 | ... | 237 | 181 | ... |
| Percentage of decline from peak | 40.4 | 26.2 | 39.03 | 38.7 | 9.85 | 33.2 | 35.2 | 23.3 | 2.75 |

This table is taken from the *Monthly Labor Review*, June, 1921, p. 43.
* Peak.

purchasing power parity rather than the old mint par.[3] Table IV is therefore of interest as bearing on exchange rates. It shows that the process of deflation in the principal countries has gone farthest in the United States and next farthest in the United Kingdom. In France and Italy prices were still fearfully high in March.[4]

Imports and exports, railway tonnage, wage changes, bank reserves and clearings appear in the newspapers and other generally read publications with such regularity as to make it unnecessary to cite these statistics here. Information on the trend of security values is likewise a matter of daily reading. One warning, however, is in point—that the frequency of reports on security values may obscure a view of the longer swings of the market. Securities will, of course, appreciate in value with a lowering of interest rates and a cessation of dividend passing. That is, a rise in security values is a mark of business revival.

The trend of business failures reported is worth marking carefully, even though not all of the "lame ducks" have been caught up in such a tabulation as the following—thanks largely to the unremitting efforts of the banks. There is a tendency for the number of failures to decline. This is hopeful. But the monthly mortality is still too high to warrant enthusiasm.

[3] For a discussion of this point see paper in this volume by George M. Reynolds and particularly the mathematical calculations in an article by Henry A. E. Chandler in the May, 1921 number of *Commerce Monthly*—published by the National Bank of Commerce in New York—which is entitled "Discussion of Some Fundamental Factors in Foreign Exchange Fluctuations."

[4] Newspaper reports as to price changes in foreign countries as of July, 1921 show material reductions, but the relative positions of the United States, Britain, France and Italy remain unchanged.

TABLE V

| | *Business Failures Bradstreet (Units of one failure)* | |
|---|---|---|
| | *1920* | *1921* |
| January | 503 | 1998 |
| February | 434 | 1436 |
| March | 505 | 1506 |
| April | 474 | 1446 |
| May | 453 | 1338 |
| June | 571 | 1329 |
| July | 593 | 1444[5] |
| August | 633 | .... |
| September | 654 | .... |
| October | 856 | .... |
| November | 1056 | .... |
| December | 1731 | .... |

Harvard Economic Review, June 25, 1921.

When all or most of the statistics discussed in this section give evidence of improvement, then any business man can assure himself—and with a small margin of probable error—that business revival is foreseeable, if not at hand.

## THE TWO VIEWS AS TO THE RELATION OF FOREIGN TRADE TO BUSINESS REVIVAL

It is not uncommon to hear that the decline in the export trade of the United States has been the chief cause of the recent business depression and that the way to business revival lies in the resuscitation of exports—with a pulmotor if necessary. Proponents of the Hundred Million Dollar Foreign Trade Financing Corporation have been particularly definite in uttering this opinion. It is urged that American goods—particularly equipment and raw materials—must be sent to Europe to relieve the American market and to assist European nations to "come back." It is contended that "failure, distress and disaster there will mean failure, distress and disaster here." Generalizations about the importance of exporting to Europe are too well advertised in public prints to require repetition.

[5] Newspaper report by Bradstreet.

They have been urged so often that their authors and some part of the general public seem to believe them implicitly.

Enthusiasts have woven into plans for the development of foreign trade a charming pattern of romance, which seems to be colored with illusions as to its quantity and delusions as to its importance. Therefore, it cannot distort the perspective of business men to state another view point or to emphasize the hard and particular facts about the foreign trade of the United States.

In an address that has aroused such wide-spread attention as to justify its inclusion in this volume,[6] Mr. George M. Reynolds has stated certain propositions which seem often to have been overlooked. Admitting that foreign trade for the United States is both necessary and desirable, he points out:

(1) That this trade is likely to be governed by American needs for particular imports, and by particular advantages in the production of certain classes of goods for export;

(2) That more emphasis has been placed on what the United States can do for Europe than on what European countries can and must do for themselves;

(3) That the export of American capital must be considered not only in relation to Europe's needs but also in relation to America's needs.[7]

(4) That export trade constitutes, after all, only a small percentage of the total volume of American commerce[8];

(5) That if it were necessary for the revival of American business to wait upon the rehabilitation of Europe, revival might have to wait a long time;

(6) That the key to business revival lies rather in the domestic market than in attempts to perpetuate abnormal exports such as obtained during the period 1915–1920.

## NATURAL TRENDS OF FOREIGN TRADE

"Normalcy" is a relative term. But the foreign trade of the United States during the calendar years 1915–1920 was certainly abnormal if related to foreign trade before the war. What a more normal foreign trade will mean in the years that are ahead cannot be predicted with precision—there are too many variables for mathematical accuracy of statement. The effect of the Reparations Settlement, the extent to which Europeans will deflate their currencies, work, save, and abandon imperialistic cravings are among the variables. However, to the extent that political policies permit—whether those policies are European, Far Eastern, or relate to such a question as the tariff, whose schedules are likely to be settled as usual by log-rolling and as local issues—it seems safe to predict that more normal foreign trade for the United States will be somewhat like that during the period 1900–1913. At any rate, the suggestive qualities of a paper entitled "American Trends in Foreign Trade" amply justify its publication. Factual correctives for loose generalizations are needed medicine.

## THE REPARATIONS SETTLEMENT AND ITS EFFECT ON BUSINESS REVIVAL

One of the most serious of the disturbing elements in the world-wide

[6] "Capital—Shall We Export It or Use It for American Business?"

[7] Professor Friday's statement in his article in this volume that "the necessity of exporting capital to keep foreign trade going and thus the wheels of industry turning, seems to me to be much exaggerated," is distinctly in line with Mr. Reynolds' view. Mr. Hartley Withers, Editor of the *London Economist*, recently expressed views of a similar nature.

[8] Professor Friday notes in his article that "the average income per man, woman and child in this country is only about $500 per annum. Even a college professor's family can consume more than that!" This is a rather nice implication of the expansibility of the domestic market.

business situation is recognized to be the Reparations Settlement. Unfortunately the Reparations Settlement is not settled. It is not even understood by many business men. The ingenuity of a New York lawyer or the intensive study of a specialist on foreign policies is required for an intelligible statement of what the Peace Treaty and the Reparations Settlement really involve. Mr. McDonald has given a simple statement of the facts of the Settlement that should be appreciated by the circle of *Annals* readers. It is hard to escape his reasoning that eventually one of two courses of action is likely, either the enforcement of the military sanctions and the break-up of the German Empire, or such revision of the Reparations Settlement as will permit unhampered or less restricted trade development.

It is quite certain that the revival of American business is affected by the so-called Settlement and until it contains less of uncertainty as to its effect, that revival must be somewhat retarded. The Reparations Settlement is at least one of the grays in a spotted business situation.

## WANTED—A NEW ECONOMY FOR THE UNITED STATES

That England has been the great creditor nation for decades is a known fact. That Britain has exercised a major control over world trade for more than two centuries is likewise common knowledge. Within half a decade or less the United States has become a creditor nation. Within that fractional part of a century the hope, at least, has been entertained in some quarters that the United States will succeed to the control of world markets. Can a nation—even one obsessed by the ideals of speed and size—set out to control international trade, or is such control determined by geography and other realities? Enthusiasm must sometimes be tempered by realism. History gives perspective, if not balance.

The influences that determined Britain's trading preëminence are known—and usually forgotten. The converging forces enumerated by Mr. Wagel[9] did not develop in a day or decade. Their enumeration constitutes a check-list for contrasting British and American trends of development. Britain's empire is abroad; America's is at home.

The Revolution gave the colonists political but not economic independence. Until the War of 1812, the volume and trend of American trade remained substantially the same as before the Revolution—almost wholly with England. But during the period 1815–30, the "American System" was emphasized and internal development begun. The United States lost its control over shipping to Britain in the sixties, not only because of the latter's iron boats propelled by steam, but also because riches lay in home industry and home markets.

With the settlement of the continent, the rise of large scale production and of cities, a new impetus was given to the export of commodities other than breadstuffs, cotton, meat and meat products, which were the ranking exports during the period 1860–1900. Domestic exports of manufactured goods comprised only twelve per cent of the total exports of the country in 1880 and thirty-one per cent in 1900. Iron and steel manufactures came into fourth place among American exports in the latter part of the nineteenth century. America's greatest foreign market was the United Kingdom. America's greatest market was at home.

During the period 1900–1913, the foreign trade of the United States grew

[9] "Great Britain's Control over International Markets."

tremendously. Annual exports increased in value from less than half a billion to nearly two and a half billion dollars. In 1913, the total volume of foreign trade amounted to $4,276,000,000. This was a big increase even considering the rising price level. Favorable trade balances, which had become a regular feature during the period 1860–1900, increased greatly, though fluctuating widely. In 1913 the favorable balance of trade amounted to $692,421,000. This was a huge sum, but paltry as compared with recent balances or as compared with the total volume of domestic sales at that time. It is significant also that the rise in the exportation of manufactured goods tended to bring America into conflict with the manufacturing countries of Western Europe, both in those countries and in the new markets which the United States was trying to develop. The struggle for foreign markets really began just a few years before the war.

Foreign trade figures during the period 1914–1920 rose to such size that the four billion dollar favorable balance of 1919 caused no gasping for breath. Americans had acquired the habit of regarding billions of dollars with equanimity, if not comprehension. What did it matter if the price level had sky-rocketed? Business men were interested in values rather than in quantities of goods—values measured in billions of dollars. The statistics and trends of pre-war export trade apparently were forgot. Foreign trade thinking was almost solely in terms of exports—not exports *and* imports *and* tariffs, indemnity payments, depreciated exchange, falling prices, business depression and embarrassed European governments.

So great has been the export obsession that recent statements emphasizing the fact that export sales constituted only some six to eight per cent of the total volume of sales, domestic and foreign, during the period of maximum exports, have aroused wonder, if not antagonism.

In contrasting the fundamental importance of foreign trade for Britain with the relatively minor importance of foreign, particularly export, trade of the United States, it may not be amiss to examine the cited percentages. The "total national product" for 1917 was estimated in dollars at 65,515,000,000 by Professor David Friday.[10] The Hon. A. C. Miller, of the Federal Reserve Board, put the industrial and business income of the people of the United States for the year 1917 at "close to fifty billions of dollars."[11] B. M. Anderson, Jr., estimated the national income for 1917 at $68,000,000,000 in an article for the New York Times' *Annalist*, January, 1918. The total exports of merchandise for the year 1917 amounted to $6,233,512,597. This export figure is slightly more than ten per cent of the national income as estimated by A. C. Miller, a little over nine per cent of the national income as estimated by David Friday and just about nine per cent of the national income as estimated by B. M. Anderson, Jr.

The national income is different from the total volume of sales. The turnover of goods is difficult, if not impossible, to estimate. But certainly the total volume of sales of the nation would be considerably greater than the total volume of goods produced, even though some kinds of goods—certain farm products and the domestic service of wives, for example—never get to market. In *Moody's Investors' Service* for February 24, 1921, an interesting estimate puts the total volume of *sales*, do-

[10] *Journal of Political Economy*, December, 1918; article beginning p. 952.

[11] January, 1918, number of *The Annals;* paper entitled, "War Finance and Inflation."

mestic and foreign, at $97,500,000,000 for 1920. The article concludes: "According to these figures, our average exports for the past three years were equivalent to only about 7½ per cent of our total sales, while for the maximum year they were equivalent to 8½ per cent."

The upshot of this whole matter is that a difference of one or two per cent is not important. If exports constitute only from seven to ten per cent of total sales, the relative importance of domestic and foreign trade is very different for Britain and the United States.

If the factors that gave Britain her control of world markets and determined the importance of foreign trade and foreign financing for her are not operative to the same degree in the United States, thought had better be taken of the proper place of foreign trade in the American economic scheme, of more normal trends of foreign trade than those during the period 1914–20. If an American economy is desirable or inevitable, more attention likewise may be given to the economic tenets, for instance, of Simon N. Patten and less to straight British theory. Economic doctrines must square with the determinants of economic life. The British doctrines do. Do ours?

### BUSINESS COSTS AND TRADE REVIVAL

The proposition has been advanced that the key to business revival lies in the domestic market and in a more normal export trade. This proposition has at least two corollaries. Stabilized prices seem to be needed before a resumption of anything more than hand to mouth buying can be expected. The drop in prices, even when checked, makes a reduction in costs imperative, if business is to be profitable. The costs of capital, labor and government must all be cut. Waste of all kinds must be reduced, if not eliminated. The second section of this volume bears particularly on the reduction of costs. The general problem is one of better informed and scientifically ordered management, even in government. Costs do not reduce themselves.

### THE PRICE AND COST OF CAPITAL

Professor Friday's prediction[12] that money rates and interest rates are to be appreciably lower within the foreseeable future is supported by facts and cogent reasoning. It should be a source of distinct comfort to business men hoping for lowered costs of production. However, they must not forget that unwise use of capital is the leading cause of business failure. Capital costs are not dependent solely on interest rates. Ill-considered ventures, imprudent extensions, improper types of equipment, surplusage of machinery, and other unwise uses of capital may more than offset a lowered price of capital. Capital costs are really to be reckoned in relation to other costs and in relation to output.

If Professor Friday's prediction is at all vulnerable, the weakness may lie in his brief analysis of the supply influences affecting interest rates[13] possibly an under-estimate of the demand or capital. But any difference of opinion regarding the probable trend of interest rates is likely to be chiefly a difference as to the time and extent of the decline.

### WAGE SCALES AND LABOR COSTS

So much has been said about the reduction of wages as a means of reducing costs of production that fur-

[12] "The Probable Trend of Interest Rates."

[13] Compare that section of Mr. Reynolds' article headed, "Savings Not Indefinitely Elastic."

TABLE VI

INDEX NUMBERS OF WAGES PER HOUR, 1840–1920

**Prepared by the Bureau of Labor Statistics from incomplete available sources. This table affords a comparison of wage changes incident to the Civil War and the recent great conflict**

**(1913 equals 100)**

| Year | Index Number | Year | Index Number | Year | Index Number |
|---|---|---|---|---|---|
| 1840 | 33 | 1867 | 63 | 1894 | 67 |
| 1841 | 34 | 1868 | 65 | 1895 | 68 |
| 1842 | 33 | 1869 | 66 | 1896 | 69 |
| 1843 | 33 | 1870 | 67 | 1897 | 69 |
| 1844 | 32 | 1871 | 68 | 1898 | 69 |
| 1845 | 33 | 1872 | 69 | 1899 | 70 |
| 1846 | 34 | 1873 | 69 | 1900 | 73 |
| 1847 | 34 | 1874 | 67 | 1901 | 74 |
| 1848 | 35 | 1875 | 67 | 1902 | 77 |
| 1849 | 36 | 1876 | 64 | 1903 | 80 |
| 1850 | 35 | 1877 | 61 | 1904 | 80 |
| 1851 | 34 | 1878 | 60 | 1905 | 82 |
| 1852 | 35 | 1879 | 59 | 1906 | 85 |
| 1853 | 35 | 1880 | 60 | 1907 | 89 |
| 1854 | 37 | 1881 | 62 | 1908 | 89 |
| 1855 | 38 | 1882 | 63 | 1909 | 90 |
| 1856 | 39 | 1883 | 64 | 1910 | 93 |
| 1857 | 40 | 1884 | 64 | 1911 | 95 |
| 1858 | 39 | 1885 | 64 | 1912 | 97 |
| 1859 | 39 | 1886 | 64 | 1913 | 100 |
| 1860 | 39 | 1887 | 67 | 1914 | 102 |
| 1861 | 40 | 1888 | 67 | 1915 | 103 |
| 1862 | 41 | 1889 | 68 | 1916 | 111 |
| 1863 | 44 | 1890 | 69 | 1917 | 128 |
| 1864 | 50 | 1891 | 69 | 1918 | 162 |
| 1865 | 58 | 1892 | 69 | 1919 | *184 |
| 1866 | 61 | 1893 | 69 | 1920 | †234 |

* This index number applies to the spring of 1919. Wage rates advanced during the year.

† This index number applies to the summer of 1920, and probably represents the wage peak of the year.

Figures during the Civil War period represent a currency basis.

ther comment may seem unnecessary. However, there are two parts to the story—and both are not always emphasized. A reduction of labor costs involves not only a reduction of wage scales for many labor groups, but also a reduction in the number of workers in relation to output. This matter of increased efficiency of labor is too important to be slighted.

Money wages in 1920 were three and a half times higher than in 1870, seven times higher than in 1840 and over twice as high as in 1914, the year that marked the beginning of the war.[14] Under the circumstances it is not strange that thought of reducing production costs should center so often about reduction of wage scales.

That cuts in wage rates have been and will be made is indisputable. It is improbable, however, that the level of money wages will recede to the 1913

[14] See table and chart included in this section.

level within the foreseeable future. The teachings of historical fact are not wholly futile. The trend of money wages over a period of eighty-one years is shown in the table below, prepared by the Bureau of Labor Statistics.

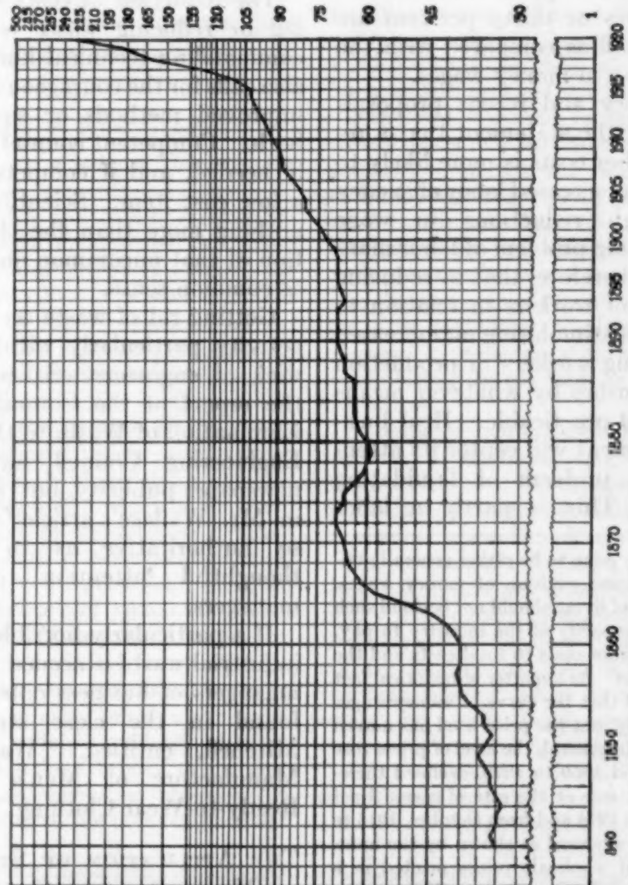
The following chart tells the story of the trend of money wages even more clearly.

The curve of the index number has risen steadily since 1840 with only one major decline, from 1873–79, and one minor recession, during the years 1893–94,[15] until the year 1915, when the curve begins to leap upward.[16]

[15] The depression of 1907 did not cause a wage decline; it merely stayed the rise in wage rates.

[16] It is probably unnecessary to elaborate the trend of *real* wages in this article. Workers and labor unions accepted the "principle" that wages should be adjusted to living costs when prices were rising, but now that the cost of living

Wage Curve 1840-1920.



ON THE RIGHT ARE INDEX NUMBERS OF WAGES PER HOUR—1913 = 100. BUREAU OF LABOR STATISTICS DATA.

After the Civil War wage rates did not slump. They rose each year from 1860 until 1872, in all from an index number 40 to the index number 69. It is not submitted that what happened after the Civil War will happen now. What is sure is that there will be a recession in wage rates, just as there were declines following the depressions of '73 and '93. Wage reductions now proposed sound drastic, but they can hardly be called "liquidation of labor." Cuts of twenty or thirty per cent are relatively small as compared with the recent increase in money wages.

Both history and recent proposals give basis for the statement that a reduction in labor costs is more likely to come through increased labor efficiency than through reductions in wage scales. The big problem of labor management is, therefore, that of reducing the number of workers in relation to output and of stimulating an increased interest among workers in production and workmanship by whatever means may be found practicable. Real business management will center its attention on the problem of liquidating labor *costs*. This is partly a labor management problem and partly a problem of using efficient forms of capital equipment and of eliminating waste. These are, of course, not the only measures that must be taken to reduce labor costs, but they are suggestive—particularly suggestive of the need of efficient management.

is declining, they seem to be rather generally opposed to downward revision of money wages. Talk about cost of living should not becloud such matters as the capacity of the industry to pay, the relation of labor costs to total costs and the efficiency of labor. As a matter of historical fact it may be noted that the curve of money wages has risen steadily, but the price level has moved up and down. In general, the level of prices rose during the period 1850 to 1873, declined thereafter until 1896, rose at the rate of about 3 per cent a year until 1914 and from October, 1915 to May, 1920 rose skyward as shown by the index number table of wholesale prices printed in a previous section of this article. When prices rise, money wages lag; when prices fall, money wages also lag. If money wages do not fall proportionately with the drop in prices, workers will, of course, enjoy larger real wages. Through the period 1840–1920 it seems that real wages have been rising. Whether they were high enough in 1914, say, is a debated question.

## THE ELIMINATION OF INDUSTRIAL WASTE

The reduction of costs by eliminating or reducing waste is a problem commanding technical knowledge. It also calls for the courageous adoption of improved methods or equipment, or both. Competent counsel is frequently needed, and if competent, is itself a low cost item. Scientific method is nothing more than the close application of that uncommon quality known as common sense.

Getting rid of waste seems to be an activity particularly within the bailiwick of engineers. Salient points in the report of the Committee on the Elimination of Waste to the American Engineering Council have received newspaper publicity, but are set forth in Mr. Wallace's article[17] in a fashion so authoritative as to merit the thoughtful attention of business managers.

If a particularly horrible example of industrial waste is needed to shock the managers of business enterprises, it is found in the close study by Dr. Mitchell, entitled, "Waste in the Manufacture of Men's and Boys' Ready-to-Wear Clothing."

## THE APPLICATION OF STANDARDS IN MEASURING THE CREDIT RISK

Engineering counsel is often an aid in the reduction of costs, but business men can employ self-help by applying sound standards in measuring credit risks.

[17] "Industrial Waste."

Improper extension of credit is a costly procedure and Mr. Tregoe has grounds for preaching anew the "three C's" of credit.[18]

After the recent "involvements" of business concerns, warning about credit standards may properly come from another quarter—from a banker whose pet interest is the supervision of the credit department of one of the largest banks in the country.[19] While his engagements did not permit him to write an article, he dictated a memorandum which the editor is taking the liberty of quoting.

### OLD WINE IN NEW GLASSES

Quick assets in a balance sheet consist primarily of cash, accounts and bills receivable, merchandise and readily marketable securities. We have discovered that these items at times are not quick assets; that cash is sometimes money deposited abroad which cannot be lifted because of an exchange barrier; that accounts are not met at maturity, but are renewed indefinitely, and that merchandise is a glut on the market. We have had the reasons for Cannon's famous two-for-one theory emphasized; assets always shrink while debts rarely do. Therefore a necessary adjunct in considering a risk at this time is a complete, detailed statement, not only of assets and liabilities, but also as to contingent debt, contract debt, commitments and guaranties,—plus a complete detailed operating statement, preferably over a period of years. We discover that businesses are keyed upon a certain volume of sales to carry the overhead. If sales collapse suddenly, it takes months to adjust the overhead to the new scale; meanwhile, operating expenses eat up existing capital to the point of financial exhaustion.

We recognize the dominating importance of a budget system of operation. We have observed that a concern operating on a good budget system has not allowed the buying end of the business to run wild. Such a system checks speculation in merchandise. Merchants have had their optimistic over-purchases vindicated so long and so often that many of them have come to regard a rising tide of prices as a regular and natural occurrence.

Unbalanced inventory, we discover, has many evils in its train. The question is not so much whether a business is stable or luxurious, but how much of an assembled proposition the output is. Does the concern manufacture a diversified line of commodities or only a few articles? It would not take long to get the overhead down, as a rule, with a company manufacturing a few standard articles—for instance, Ford.

Abnormal war-time profits created abnormal taxes and led to extravagant dividend disbursements and salary payments, with the result that in lean periods the reserve fat to fight business depression has been eaten up and over-worked working capital succumbs to the demands upon it. The thought suggests itself, therefore, that the slow, plodding, consistently earning business is sometimes a better risk,—remembering the old fable of the hare and the tortoise.

Acceptance credits should be handled as carefully as discounts and, likewise, the usual principles of credit should be applied to foreign exchange transactions in which an element of credit is involved.

The wisdom of selecting a risk in which the stockholders are resourceful, energetic men of some outside means is still pertinent. Occasionally a business becomes anemic and we discover that there is no vitality in the management, which is controlled by estates or people living remote from the company's scene of operation.

The new freight rates may make zoning of business imperative and may even shut a concern out of a market which was heretofore a prime user of its product.

Likewise, tariff readjustment may surround a prospective credit with uncertainty. A business solely dependent upon the caprice of politicians or the swings of foreign exchange for its profits is a hazardous line. We have discovered, also, that the bill-of-lading draft is at times a slow collateral loan with collateral remote from one's office,

18 "Standards for Granting Credit."

19 Mr. John F. Craddock, Vice-president, Continental and Commercial National Bank of Chicago.

expensive to handle and frequently unguarded, with no assurances that the consignee will accept and pay the document. Various ramifications of this one question have loaded the docks abroad and the railroad warehouses of this country.

Rising prices are not essential to good business but, on the contrary, are sometimes an incentive to speculation or carelessness. Lowering prices are not an unmixed evil if they necessitate greater care in management.

### TAXES AS A HINDRANCE TO BUSINESS

Taxes have been so substantial and their application so uncertain that they have retarded development toward the point of "normalcy"—whatever and wherever that point may be. The Administration has taken cognizance of the consequences of such taxation to business already struggling against debt and depression. There was a great gap, however, between cognizance by the Administration and action by Congress. In the latter's lexicon, "dispatch" seemed to be given a meaning far removed from its usual significance. Precedence and precision of action wandered into the field of political desire and expediency. Tariff adjustment was placed before tax adjustment, and revenues were considered before the costs of government were determined. Thus politics interfered with business and business judgment; management and genius became attributes of small moment. When the government flounders, business can only grope.

The costs of government must not penalize business efficiency and business must be made productive enough to bear war burdens of taxation.[20] This is about all that can be said with certainty. The delay in tax adjustment seems at least to have given time for sufficient discussion of the various forms of sales taxes—and their apparent rejection. In the end, the tax bill approved by President Harding and modified by the Republican caucus seems likely to be passed,—possibly after further vicissitudes. Taxes, it is hoped and half planned, are to be made less burdensome on business,—which will ultimately be free to draw on the capital it creates for its own development. Whether deficiency appropriations will later be passed remains to be seen. But reported cuts in appropriations, amounting to half a billion dollars, gives present encouragement,—more than projected economies that may result from the new budget system. Funding of foreign debts may be worked out satisfactorily and may help later on. Greater certainty in the tax situation is now forseeable, but cause for unrestrained rejoicing must still be sought in newspaper bulletins.

### THE FEDERAL RESERVE SYSTEM—ITS ADMENDMENT AND ADMINISTRATION

When adversity comes, Americans seem always to turn to new machinery for salvation. Foreign trade financing corporations or coöperative marketing schemes are present illustrations. People also like to tinker with existing machinery, particularly with the Federal Reserve System. Even business men seem to want nickle-in-the-slot government, which will save them. Automaticity is a choice mechanical ideal, but always in the end human beings must operate.

Such changes in the Federal Reserve Act as are found necessary, after careful analysis, to further the real purposes of the system, should be enacted. These are very few, as Mr. Dodge points out.[21] The McFadden bill (H. R. 4906) abolishing the office of the

[20] Cf. the article by Dr. King in this volume, "Taxation That Will Not Impair Business."

[21] "Changing the Fundamental Structure of the Federal Reserve System."

Comptroller of the Currency has received the endorsement of bankers, and deservedly.

Of vastly more importance than amendment of the Federal Reserve Act is its administration to accomplish its fundamental purposes. The strict commercial character of eligible paper and the strict commercial character of the System must not be impaired. This is true whether pressure comes from those who would end the farmer's credit struggle through the System's capacity for expending credits, or whether the pressure comes from some other group who think that somehow the government, and especially the Reserve System, can make everybody rich.

The Federal Reserve System, to operate properly, must be unhampered by politics—unhampered even by "hang-over" political doctrines. The System can work with government without being dominated by government.

Proper administration means the adjustment of rediscount rates in the light of district conditions. It means the formulation of all district policies according to the factual situation in each district.

The selection of the best possible men to control the System, nationally and *locally*, is imperative. They should be selected regardless of friendship, favors received or honors to be distributed. No administration is better than the men in charge of it.

Public opinion should be alert to the need of eliminating any policy of arbitrary control of the System, all political interference or dead-level uniformity between districts. Above all, the idea should be sloughed off that the Reserve Banks are *government banks* which possess an economic panacea to be applied through political manipulation.

## THE MIDDLE WEST—THE ECONOMIC BACKBONE OF THE NATION

Production at minimum cost involves two factors particularly. These are location and personnel. If a business is not properly located, it is under a handicap which will be reflected in decreased profits. If the personnel of any concern is not efficient, costs will be higher than they should be and profits will be correspondingly curtailed. In considering the revival of American business, labor costs are of immediate concern, but the problem of location, or perhaps relocation, of industry cannot be overlooked.

Practical experience has taught that manufacturing industries have had their locations determined by raw materials, labor, the market, power or fuel, capital and transportation. These factors have operated in various degrees at various times and with respect to various industries. Close examination of the part they now play seems to point conclusively to the present and future importance of nearness to market and accessibility of raw materials.[22] The marked advantages of the Middle West with respect to these two factors, as well as other determinants of industrial location, give concrete reason for the generalization so often made that the Middle West is the economic backbone of the nation. This statement may not be welcomed in some quarters, but it has been made often enough to be comprehended, especially as the actual trend of industrial relocation has been toward the Middle West.

It is doubtless true that extensive changes in the structure of railroad rates might be such as to speed up an already marked process of relocating manufacturing establishments. Certainly, if the vast domestic market is

[22] "Economic Factors in the Location of Manufacturing Industries."

not to be overlooked, in considering the hoped-for revival of American business, this question of the location or relocation of manufactures must be given serious consideration. Economies in production will have small regard for sentiment or section in the days that are ahead.

### Key Industries in the Revival of American Business

Part two of this volume has been given over to a number of factors, particularly cost factors, affecting any kind of business. It is helpful in getting at "the meaning and manner of business revival" to take a new approach—the usual one of studying conditions in key industries. The railroads, farming, the steel business, the automotive industry and building construction have clear title to the claim of being key industries. This claim is evidenced by the "essential" character of the industries, by the magnitude of their operations and by the fact that revival in almost any one of them would help to revive the business of the others. It is common knowledge that the important domestic industries are interdependent. Those business pursuits, like cotton growing, which depend rather on foreign than on domestic markets, are less closely integrated with the domestic business structure, but the difference is only one of degree. Though the list of key industries analyzed in Part III might be more comprehensive, there is a deal of common sense in appraising those listed, if one would gauge the *when* and *how* of business revival. A plea of "confession and avoidance" could be entered against the charge that the list is not sufficiently comprehensive.

### Railroad Recovery and Business Revival

The capitalization of the railroad industry, the number of its employes, its purchasing power and the economic importance of its service make it the industry to which the country habitually turns in seeking first signs of business revival. It seems likely to indicate a measure of improvement in the near future.

The financial plight of the railroads has been detailed in all public prints. It is nevertheless agreeable to have some one who is a detached student of the "railroad problem" say bluntly that the unbusinesslike methods of the United States Railroad Administration have been chiefly responsible for the financial position in which the railroads find themselves.[23] Professor Van Metre is perhaps daring in suggesting government subvention—that the "government should give to the carriers, either as a subsidy or as a long time loan without interest, a sum equivalent, as nearly as possible, to the surplus which the Railroad Administration might have created out of earnings, had adequate rates been established." The argument is logical: If the Railroad Administration kept rates down during a period of rising prices and mounting expenses so that a surplus could not be created against the time of depression, then the Federal Government should undo its violation of a sound business principle by making restitution.

It is reported by the newspapers that at a dinner given by President Harding to western bankers, the trend of feeling took some such turn, though not so explicit or sweeping. Certain it is that the Federal Government since that dinner—whether two and two make four in this case is purely a matter of conjecture—has taken steps to speed up the settlement of railroad claims against the government. President Harding's message to Congress on

[23] "The Railroad Predicament: How It Arose and How to Get Out of It."

July 26 pointed the way. The plan proposed would put the railroads in funds to the amount of some $500,000,000, while their indebtedness to the government would be funded. This should be a start toward the recovery of the railroads and the revival of American business. The government seems to have got the railroads into a financial "mess" and it must lead in getting them out, if private ownership and operation are the public wish.

The "railroad problem" has more than a fiscal aspect; labor and operating problems are included. More labor disturbances—whoever might be responsible—would be disastrous. Adequate and effective service will be called for when business revival does come. The public has a right to that kind of service. Labor and operating problems call for unusually able management. The public has a right to expect such management.

It is devoutly to be hoped that the two headed monster constituting the railroad problem, impaired finances, and labor adjustments, will have lost its terror soon after this volume comes from press.

### PROSPECTS OF THE GRAIN GROWER

It is alleged, with truth, that the farmer was the first to feel the effects of the recent contraction of business. There is probably no gainsaying the fact that the grower of grain was reluctant to face the inevitable, and aggravated his financial difficulties by holding his product instead of releasing it for the market before the full effect of the price slump was felt. It is doubtless true that some farmers "went it pretty heavy" on expenditures for automobiles, some bought too heavily of consumer's goods, some went in for "blue sky," some bought unnecessary new equipment and some were caught in land deals. Another point in the indictment might be that the grain growers, or rather their voluble representatives, seemed to regard the Federal Government as able to make everyone rich, or at least able to put a price peg in a grain market subject to the play of world-wide supply and demand forces, so that the farmer should not suffer loss. A so-called "Agrarian Bloc" is said to be working in Congress now for what they think the farmers need.

On the other side of the ledger, however, should be chalked up the fact that even if every farmer had sold all his grain when the pressure of the Federal Reserve System bore on him to liquidate, he could not have done so. Many farmers incurred expenses and obligations at a high price level and would have sold at a lower and lowering scale of prices. A margin of debt would have been carried by the country banks in any case. Large banks with hundreds of country bank correspondents realized the situation and borrowed heavily at the "Fed." The farmer has only a single turnover a year. His position is different from the merchant's or manufacturer's. Banks at the centers *had* to carry the farmer. A policy of deflation was necessary, but as was not always realized, it was necessary also to apply it considerately in the full realization of the farmer's peculiar position. The banker's hope is that the farmer will "clean up" obligations out of this year's harvest. It is a hope that promises to be partly realized.

The ultimate position of the grain grower is undoubtedly sound.[24] He is an indispensable member of society. Food is a primary need. It is his immediate prospect that is perhaps less reassuring. The real situation cannot

[24] See "The Recovery of the Grain Farmer" in this volume.

be disclosed until the spread between the price of farm products and the price level has narrowed.

What will come of schemes for coöperative marketing or other methods for controlling the marketing of grains is as yet problematic. The War Finance Corporation plan for handling grain exports is still in process. The farmer's program should be followed intelligently and sympathetically, but with an eye open for any bad economics that may develop. He is certainly entitled to a reasonable return. No thoughtful student of economics would deny him profits. The agrarian movement in Congress commands interest. But if some of the members of Congress —especially the over-abundant lawyers —will not learn that politics cannot successfully defy economic forces, they should be prevented, by an alert and effective public opinion, from doing too much harm.

### SLOW RECOVERY OF THE COTTON BELT

The known facts about the cotton situation, as noted in Mr. Shelton's article[25] and in field studies, do not make a pretty story. The bottom fell out of the cotton market. Buyers were aware of growers' financial extremities and induced competition among sellers that was often ruinous. In general, however, growers were not particularly disposed to sell, and the return was less the longer they waited. If sales were made, they regularly netted amounts less than cost of production. Expenses on the 1920–21 crop had been incurred on a high price level. Funds had been secured largely from banks and cotton factors, as usual, to cover these expenses. Collateral given was often 1919–20 cotton which later could not be marketed at 50 per cent of the face of the loans. Credit was frozen. Planters' surpluses had been spent on consumer's goods or real estate. Cotton growers asked new extensions of credit. Local bank loans were necessarily restricted. Banks in the centers practically became cotton planters. Commercial loans became investment loans. New York and Boston Reserve Banks rediscounted for the Reserve Banks in Dallas and Atlanta. Every possible angle of financing had to be tried and new credits made available—under supervision. Somehow cotton growers and cotton banks had to be salvaged. And the end is not yet!

The cotton growers tried self-help in the way of restricting acreage, fertilizer and supplies. The 1921–22 crop will be smaller than that of 1920–21. Cotton growers are familiar with the parodox of value; price varies inversely with supply. Thus price may be raised to cover costs that do not decline proportionately. With curtailed output and orderly marketing of the 1921–22 crop, it was felt that obligations could be liquidated—gradually. Moreover, economy, voluntary or forced, had to become the order of the day. It is to be hoped that the worst will be over this year, and it may be if the War Finance Corporation plans work extensively.

One form of self-help that is new in certain sections, for example the Delta country, is crop diversification. In 1920 the planter anticipated a price for his cotton which would make the purchases of feed-stuffs for making the 1921–22 crop easier and cheaper to buy than to raise. With the market decline, banks had to purchase at least seventy-five per cent of the 1921 feed. In 1922 the planter will have raised seventy-five per cent of his own feed. But this was due to financial pressure and may not be a permanent improvement.

Cotton is an American product that requires a foreign outlet. No one dis-

[25] "The Way Out for Cotton Growers."

putes that fact. If Mr. Shelton's estimate is correct that "the decrease in the world's production will be 7,500,000 bales from that of 1920," and if his belief is well founded that world "consumption should increase materially and should probably be equal to the pre-war normal for the calendar year 1922," prospect is more alluring than retrospect.

Whatever time must elapse before world recovery, the cotton grower must be financed But this will not be accomplished by the magic of new corporations. The funds of the larger banks and local economy will continue as prime factors in the situation. Moreover, if all creditors swoop down simultaneously this fall the situation will not be greatly bettered.

Though cotton growing is a key industry and the immediate future may be brighter than is sometimes felt, one prediction seems safe: The cotton grower is not likely to lead the procession toward business revival. Rather he will follow.

### DARK SPOTS IN THE AUTOMOTIVE INDUSTRY

The size of the automotive industry makes it one of the key industries to consider in studying the question of business revival. Moreover, everyone knows that the industry has been hard hit by the recent depression, in spite of the much advertised but short lived "spring bulge." Some people have even wondered how so many could afford to "sport" cars, and whether the trade was "plunging" on sales. They also have wondered if consolidations, reorganizations, failures and final control of the industry by a limited number of efficient concerns would not be necessary in the process of stabilizing or reviving the motor car business. What some have felt, Mr. Pleasonton has stated publicly and with an array of supporting evidence.[26]

It is always the part of wisdom to learn the very worst about any situation; one can then lay plans for the upbuilding of a business on sound premises, on facts rather than delusions. There are dark spots, even black, in the automobile situation and these should be known to producers, bankers and consumers. Irrational enthusiasm will not cure over-production, modify the design of cars, reduce operating costs, assure a regular payment of dividends, or cause such critical study of the industry as seems necessary if it is to be operated according to sound economic principles.

If Mr. Pleasonton's conclusion as to the prospects of the automotive industry is sound, too great reliance should not be placed on that key industry in hoping for the speedy, if not immediate, revival of American business.

### BANKING AND BUILDING

Nostrums are cheaper than building. Facts are harder to get than are opinions and profanity. And the summer is passing. The immediate future of the building industry might be brighter. So complex a situation cannot be straightened out in a day or week. A statement of its complexity is refreshing.

The facts in Mr. Welton's article[27] deserve close study; likewise his criticism of projects to make the Federal Reserve Act a cure-all. It is not too strong a statement to say that he speaks with authority, having been intimately associated with the movement resulting in the passage of the Federal Reserve Act and a close student of the System since it began operation.

From a long run view it is interesting to note that the opinions of Mr. Welton

[26] "The Automotive Industry: A Study of the Facts of Automobile Production and Consumption in the United States."

[27] "The Building Complex."

and Professor Friday[28] coincide with respect to probable interest rates on capital for building, namely, that interest rates will presently be within reach of the home builder. Interest rates are determined in a competitive market and it is as absurd to allege discrimination against capital for building as to confuse commercial and investment banking. But human nature, particularly the instinct of rage, demands a human target. Lately, baiting the bankers has become an official if not popular sport.

## Iron and Steel Situation Unsettled

It was hoped that a steel man could be induced to read that "barometer" of business conditions for Academy members. To the less trained observer it looks as if low pressure areas are still to be expected. *Unsettled* seems to be the best term to use in appraising the steel situation.

The expansion of the steel trade is suggested by a few statistics. According to figures prepared by the American Iron and Steel Institute, the output of steel ingots and castings in the United States for 1920 was 42,132,934 gross tons, against 34,671,232 gross tons for 1919 and 23,613,030 for 1914. The production of all kinds of finished rolled iron and steel in 1920 was 32,347,863 gross tons, a figure exceeded only twice, in 1916 and 1917. This output is about a fifty per cent increase over 1910 production and an increase of 437 per cent over the 1890 total of 6,022,875 gross tons.

The slump this year in output is world-wide. The production of American plants had fallen before July first to amounts variously estimated at twenty to thirty per cent of capacity, with the output of independents less than that of the Steel Corporation.[29] The latter had booked tonnage which the independents lacked, but these unfilled orders have been dropping for twelve consecutive months.[30] The

TABLE VII. EXTENT OF LIQUIDATION IN FINISHED STEEL PRODUCTS

| | Cents per Pound | | | | 1917 Peak Exceeded 10-year Pre-War by | July 12, 1921 Exceeds 10-year Pre-War by | Extent of Liquidation from 1917 peak |
|---|---|---|---|---|---|---|---|
| | 10 year Pre-War | Peak July, 1917 | Industrial Board March, 1919 | July 12, 1921 | | | |
| Bars | 1.42 | 4.50 | 2.35 | 1.90 | 217% | 34% | 84-1/2% |
| Plates | 1.488 | 9.00 | 2.65 | 1.90 | 505% | 28% | 94-1/2% |
| Beams | 1.50 | 4.50 | 2.45 | 2.00 | 200% | 33% | 83% |
| Rails | 1.34 | 1.79* | 2.10 | 2.10 | 34% | 57% | |
| Sheets | 2.226 | 8.50 | 4.35 | 3.50 | 282% | 57% | 80% |
| Wire | 1.62 | 3.95 | 3.00 | 2.50 | 144% | 54% | 62% |
| Pipe | 2.194 | 5.10 | 4.25 | 3.55 | 132% | 71% | 46-1/2% |
| Composite | 1.684 | 5.334 | 3.021 | 2.493 | 217% | 48% | 82% |

*The Iron Age*, July 14, 1921.

* Reached 2.545¢, which was maintained all through 1918; again in 1920.

[28] "The Probable Trend of Interest Rates."

[29] *Wall Street Journal* of June 22, 1921.

[30] Unfilled orders of United States Steel were 11,111,468 tons on July 21, 1920, while on July 31, 1921 they amounted to 4,830,324 tons. The decrease for July was the smallest reported during the last year.

world output of steel in 1913 was about 65,000,000 tons; June production has been at the rate of only some thirty-seven per cent of that figure.[29] The reasons for this slump, though interesting, need not be detailed; the present and future position of the industry are chiefly in point in considering the revival of American business.

Following the slump in business came efforts at revival through price cuts and wage decreases. Independents made the first move.[31] The table on page xxvi shows the extent of liquidation in finished steel products which "represent approximately eighty-five per cent of the annual output of steel in the United States"[32]:

Using as a basis the prices formally announced within the last ten days, the advances over the ten-year pre-war average are as follows in representative products[33]:

| | *Per Cent* |
|---|---|
| Billets | 33 |
| Merchant bars | 34 |
| Plates | 34 |
| Shapes | 33 |
| Black sheets | 57 |
| Galvanized sheets | 35 |
| Wire nails | 52 |

A wage reduction was announced by the Bethlehem Steel Corporation on July 1, to be effective July 16 at its Steelton (Pa.) plant. This cut amounted to fifteen per cent for all employes except salaried men and ten per cent for them. The Company also announced a reduction of eight to ten per cent in the rents of all houses owned by it. The United States Steel Corporation announced the abrogation, as of July 16, of the "basic" or "overtime" day put into effect during the war.[34] By August 19 further cuts in prices and wages had been noted by the press.

[29] *Wall Street Journal* of June 22, 1921.

[31] The Bethlehem Steel Corporation announced a reduction to be effective July 5. The United States Steel Corporation on July 6 announced reductions to be made by its subsidiaries.

[32] *The Iron Age*, July 14, 1921, p. 93.

[33] *Ibid.*, p. 90.

Cuts in the prices of steel apparently caused no great increase in business. *The Iron Age* stated that "less rather than more buying has followed the formal posting of the new steel price lists and steel operations have not improved. Buyers do not question that prices are generally below cost, but they need little steel and wait the effect of labor and freight adjustments."[35]

Contemplated action by the Federal Government in releasing funds to the railroads would seem to be a favorable factor for the steel business, but the building situation is none too hopeful as an immediate prospect. Though much of this appraisal may be ancient history by the time this volume comes from press, the prospects of the steel industry seem unsettled, in spite of price and wage adjustments already made.

## SUMMARY OF THE VOLUME

This volume develops its own summary. Parts I and II unfold a thesis regarding the way business revival will be worked out. Part III contains a warning.

It is not the editor's fault that such a symposium should summarize the business outlook so significantly. The most carefully prepared outline revamps itself till galley is approved. A

[34] *The Chronicle*, July 9, 1921. An announcement by Elbert H. Gary, on July 6.

[35] Unofficial price cuts for certain products of the United States Steel Companies were reported. The United States Steel corporation announced another adjustment in the wages of its employes, the third to be put into effect since the decline in steel prices began. The reduction to go into effect August 29 will amount to seven cents an hour for unskilled labor bringing the wage rate down to thirty cents an hour or to the level of May 1, 1917.

volume is a growing, changing thing. The thesis as to business revival is double-barreled: That the domestic market plus a more normal foreign trade offers the field for business revival, and that responsibility for such revival can be placed chiefly and squarely with business managers, particularly in respect to reducing costs.

The warning contained in Part III is implicit rather than explicit. The outlook for key industries is still somewhat spotted. The close interrelation of these industries makes necessary more striking evidence of recovery in all before a properly defined revival of business can confidently be predicted. Time, straight thinking, courage, self-help and the restoration of a moral code under which high living, speculative gain and the breaking of promises are frowned down upon—all these must be coupled with action in alignment with the thesis of this volume regarding the manner of business revival.

The warning runs deeper still. The great American fallacy must be discarded—*Deus ex machina*, and the machine usually political. Salvation will not be wrought by machinery alone, certainly not by governmental machinery in business or for the supposed benefit of business. Machinery does not determine human behavior; it does not nullify nature's controls.

It is the privilege of the editor of this volume to make grateful acknowledgment to the contributors—who fashioned it.

C. H. CRENNAN.

# Capital

## Shall We Export It or Use It for American Business?

By George M. Reynolds

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FOREIGN trade for the United States is both necessary and desirable. There is no disagreement on this point among bankers, business men, economists, statesmen. However, in seeking a lead for the revival of American business, attention should not be focused on foreign trade to the exclusion of domestic business. American exports have constituted only some six to eight per cent of the total sales of this country during the period of maximum exports. The domestic market is definitely under American control, to be revived if proper thought and action are taken. A clear ray of hope offers in the thought that measures looking toward business revival can be taken at home and at once. This does not mean that foreign trade, particularly in certain commodities, is not important. It does mean that the key to business revival lies in the domestic market and a more normal foreign trade than that of the calendar years 1915–1920.

### The Place of Foreign Trade in American Business

The basic factors which determine the character and scope of a country's foreign trade will operate to cause the United States to seek out certain commodities needed and to export commodities in the production of which the United States has the greatest comparative advantages.

The climate of the United States prevents the production of certain commodities needed, such as tea, coffee, raw silk, rubber, cocoa, sisal, jute. These must be bought in the countries where they can be produced. It so happens that the products denied the United States by climatic conditions are found in tropical countries which want and do not produce the commodities this country can and does produce. Direct trading with such countries is therefore natural.

The United States can export goods in the production of which it has the greatest comparative advantages, due to climate, natural resources and the genius of the American people for organization and quantity production. In resources the United States excels in iron, silver, lumber, copper and other well-known basic materials. Soil and climate combine to give an advantage in the production of such goods as grain, cotton, meat and dairy products. The genius of Americans has found characteristic expression in the mass production of standardized articles, particularly of iron and steel. It also has found expression in such devices as cash registers, adding machines, typewriters, sewing machines and many similar articles of clever invention. It seems reasonably clear that whatever is the peculiar product of the climate of the United States may be sold everywhere by Americans in the face of any competition. Whatever product is benefited by peculiarity of American resources, either great supply or accessibility, may likewise be sold against competition. It is probably not too strong a statement to say that whatever is the peculiar product of American genius—whether genius for

invention, mass production or business organization—may be sold by Americans in the face of competition. These influences not only make possible but even compel the export of certain goods.

In sum, the United States can sell in any open market the commodities in the production of which it excels. There will be an interchange of goods with those countries which can supply products needed and require American goods. There will be a continuing pressure to export goods to Europe. Though the total value of exports to Europe has shrunk, the United States will continue to look to Europe to purchase cotton and other products which have so long been marketed there. Indeed, it seems reasonably certain that the United States will have a favorable balance of trade with Europe for some time, though appreciably less than indicated by export figures for the war and after-war period.

It scarcely needs to be said that foreign markets must be available in the years ahead for those commodities which have comprised the major portion of the export trade of the United States during the period 1914–1920. Heading the list of these commodities are raw and manufactured cotton, manufactures of iron and steel, breadstuffs, meat and dairy products and mineral oil. It seems likely, however, that this export trade of the United States will conform more and more to the value, volume and trend of such trade during the period 1900–1913, rather than to the export trade built up through war conditions.

In determining the place of foreign trade it is just as important to emphasize the point that foreign trade is both necessary and desirable for the United States as it is to emphasize a second point, which seems sometimes to be overlooked, that a continuation of abnormal exports cannot be expected. American exports mounted both in value and volume to unprecedented proportions, particularly during the years 1915–1920. But once the stimulation of extraordinary demand and dire necessity were withdrawn, there was a noticeable drift back to trade more in alignment with pre-war trends. Any notion that the United States can go on indefinitely selling all kinds of goods in all markets at fancy prices finds no confirmation in the views of experts who have studied conditions or in foreign trade statistics.

The prospect for the revival of American business lies in the increase of business in the domestic markets and in a foreign trade maintained along more natural lines and developed in a more normal way than is sometimes urged by the proponents of plans for the artificial stimulation of foreign trade. Ultimately, of course, if (also when and as) European countries pay the interest due the United States on their borrowings and try to amortize their debts, these payments will be made largely in goods and an unfavorable trade balance, or stream of merchandise imports in excess of merchandise exports, must be expected. Any long time appraisal of foreign trade solely in terms of exports is faulty. Close thinking must compass the problem of imports—and tariffs.

In approaching the problem of business revival, it is true that account must be taken of the fact that although the export trade of the United States has constituted only some six to eight per cent of total sales during the years when exports were at their height, this comparatively small volume of sales has a disproportionate significance, particularly with respect to those commodities in the production of which the United States enjoys distinct advantages. Export trade conforming more

closely to the "doctrine of comparative costs" is as inevitable as it is desirable.

Before developing the remaining points in this paper, that Europe should take steps to help herself and that the export of capital has a distinct effect on business revival, it is necessary to sound the warning that such arguments set up no brief against the position that natural trends of foreign trade are necessary for the United States.

### WHAT EUROPE SHOULD DO

The world, as a community of nations engaged in trade, is in an ill-balanced financial position. The United States, and in much less degree Great Britain, are the only countries with an appreciable amount of capital for export. For the purpose of maintaining their own financial solidity, these two countries can ill-afford to supply Continental Europe with funds secured through bank expansion. In fact, they can properly urge that the Continental countries take steps to straighten out their finances as a matter of good faith, if nothing more, before seeking extensive financial aid.

Reports indicate that the nations of Continental Europe have made small progress in balancing their budgets. Deficits have accumulated. These nations must make serious efforts to improve public finances. This course involves stringent measures in the way of deflating inflated paper currencies. It also involves taxation of the most rigorous character. There must be retrenchment in public expenditures. Internal funding loans of greater proportions will doubtless be necessary to reduce floating debts,—particularly to reduce debts to the state banks of issue so as to bring about a reduction in the volume of outstanding bank notes. It seems clear that European nations—some more than others—must do all these things. But more, they must put such restrictions on imports as to bar out goods that are not vitally necessary for their rehabilitation. It is imperative that the European countries work, tax, save, restrict imports to necessities,—and above all reverse the mad policy of printing bank notes. On these points economists are in agreement.

If Continental Europe does not show a disposition to put her house in order, it is not too much to suggest that British and American financiers, as well as the governments of Great Britain and the United States, should exert at least moral pressure to bring about this result. The United States could even lay down as a condition precedent to its financial coöperation or aid, serious and intelligent efforts at financial and monetary rehabilitation by the countries of Europe.

It is not amiss to note that efforts to correct the ill-balanced financial position of European countries will affect the volume of American exports to Europe. These exports are now diminishing because of the high premium the dollar commands in other currencies. The point should not be lost sight of that one of the chief influences affecting exchange rates are differences in the price levels in different countries. It has been demonstrated in fact as in theory that the parity of exchange between two countries is affected by the purchasing power of the monies of those two countries. If inflation is not checked or appreciably reduced, exchange rates must obtain which will operate as a barrier to the exportation of American goods to Europe. If France, for instance, makes no serious effort at deflation, and America is successful in its deflationary process, the ratio between the price levels in the two countries will show an

even wider disparity, and buying by France in America will be increasingly difficult. It is probably safe to say that variation in price levels, monetary standards and politics now have a major influence on foreign exchange,—a greater influence than trade balances.

One of the conditions necessary for normal trading between the United States and Europe is, therefore, that European countries shall themselves take clearly defined steps to strengthen their exchange position. Moreover, Europe should first help herself before seeking large amounts of new capital in the American market. This is necessary as a matter of good faith, as a common sense way of strengthening her position with regard to making securities attractive in the American market.

## THE EXPORT OF AMERICAN CAPITAL

The extent to which European nations have been securing capital in the American market may not be fully comprehended. During the period 1915–1920, foreign loans floated through American bankers aggregated some five billion dollars. Direct loans by the Federal Government to European nations amounted to some ten billion dollars. At the present time the unfunded debt of Europe probably amounts to somewhere between three and one-half and four billion dollars. In all, these figures represent an export of something like nineteen billions of capital.

To show the significance of these figures a comparison may be noted. During the period 1915–1920, the total reported issues of securities—railroad and traction, industrial, municipal and state, and those put out by the Federal Government—amounted to forty-three and one-half billion dollars. Of that total, fifteen billion dollars went to Europe. Europeans received three billions more than were given to all American railroads, traction companies and industries combined. They received as much as these with state and municipal issues added.

Justification for proposals to furnish Europe with even more capital is sought in the plea that the fortunes of the people of the United States are tied up with those of Europe. Failure, distress and disaster there will mean failure, distress and disaster here. The view is urged that American goods, particularly raw materials, must be sold to Europeans, not only in order to relieve the American market, but also to furnish Europe the materials on which to work in the process of economic rehabilitation. Any proposal to furnish Europe with more capital should receive the closest scrutiny.

In many statements regarding the subject of exporting capital, the idea seems to be prevalent that money is the only form of capital. If the United States makes loans to France and the proceeds of the loans are expended in the United States, it is felt that Americans will be safe because the money is still here. But in such case they have parted with capital *goods* which have been paid for with their own funds. They will receive for these capital goods the customary evidences of debt—bonds or notes which draw interest. This is as truly an export of capital as if gold had been sent abroad, and Americans have identical evidence in either case. American capital resources have been depleted to the same extent in either case. It is immaterial whether the recent hundred million dollar French loan was made in goods or in gold so far as this country's capital account is concerned. Thinking about the export of capital should not be confused by centering attention on money and forgetting the fact that capital goods are exported even though

the money may be spent in this country.

Much the same situation underlies the plan for the proposed Hundred Million Dollar Foreign Trade Financing Corporation. It is a plan to export some part, or all, of a billion dollars worth of capital chiefly to Europe. It is a plan to stimulate exports, but it involves the export of capital goods in return for which Americans would receive interest bearing promises to pay.

The reluctance of many of the larger banks to furnish capital for the organization of this Corporation in such large amounts as have been asked, is no doubt due to the knowledge bankers have of the enormous losses sustained by foreign financing companies during the last eighteen months, and the further knowledge of the fact that almost every foreign dock has been filled with goods which have not been accepted by foreign buyers.

It is a matter of common knowledge that European nations owe the United States Government about ten billion dollars. Payment of the principal amount is regarded in some quarters as problematic. Payment of the interest charges has been deferred. But if payment is made of both principal and interest, such payment must be made largely in goods, that is, the balance of trade over a number of years must run in favor of the obligated nations and be unfavorable to the United States. Under the circumstances it is possible to understand the argument in favor of the cancellation of the debt owed by European nations to the Federal Government. However, it seems unlikely that any such proposal can be seriously entertained, both because it is contrary to the trend of public opinion in the United States and because it might not be acquiesced in abroad. Therefore, the long run view of the effect of capital advances to Europe and the payment of interest and principal must compass the question of imports and ultimate unfavorable trade balances.

Even if proposed plans for financing Europe are not brought to the point of execution, the prevention of foreign raids on American capital resources is worthy of serious thought. The German war indemnity bonds are an illustration.

It is reported that on July 1, Series A of the German war indemnity bonds to the amount of three billion dollars will be issued. Series B, nine billions in amount, will be issued November 1 next. The interest rate will be five per cent. Series C bonds will amount to twenty-one billion dollars and will be issued under detailed provisions which need not now be considered.[1] The United States will receive none of these bonds, nor indemnity payments of any kind. Nevertheless, the governments that do receive the bonds will probably try to market them in the United States as it is the only great, unrestricted investment market. European nations will command new American capital to the extent that the bonds are bought by American investors.

In any discussion of America's part in European rehabilitation, the question of the export of capital from America is a primary, not a secondary matter. This fact has already been shown by the large amount of capital furnished Europe—some nineteen billions of dollars. The promoters of the Hundred Million Dollar Foreign Trade Financing Corporation have urged that the United States is morally bound to help Europe and selfishly concerned in developing export trade if it would maintain or revive domestic

[1] For a detailed statement regarding the issuance of the German indemnity bonds, see the article by Mr. McDonald in this volume.—[ED.]

prosperity. But no plan has yet been proposed that does not in effect provide merely for the wholesale granting of commodity credits.

In connection with this or other proposals to furnish Europe with capital, it goes without saying that persistent refusal to coöperate in any way with Europe would have a serious reaction on industry in the United States. About this point there can be no doubt. However, the United States owes to Europe, as well as itself, the duty of keeping its house in order. If the United States does not do the best it can with its own resources it will do less than is possible for Europe. In considering foreign trade and the export of American capital, not only the needs or demands of Europe must be taken into account, but also the capacity of Americans to export capital without seriously affecting domestic industry. Europe would not gain in the long run from the impairment of American resources and capital. Too much emphasis can be placed on what America can do for Europe and not enough on what Europe can and must do for herself. European countries owe America the duty of righting their economic position by strong adherence to sound and sane rules of financing, taxation and fiscal operations. It is important that attention be given the needs of Europe for capital, but it is necessary also to consider American needs.

### America's Need of Capital

No recourse to statistics is really necessary to confirm the truth of the statements so often made that American railroads have not received, for several years, adequate additions to their capital—additions which were necessary to efficient transportation service. It is common knowledge that renewals, additions and betterments are needed. Some idea of the situation, however, can be gained from the fact that reported issues of railroad and traction securities from 1909 to 1914 averaged almost one billion dollars each year, while from 1917 to 1920 inclusive, the average was less than four hundred and fifty million dollars a year. It seems a reasonable inference that the export of American capital to Europe must have helped to stay railroad progress and development. Similarly, the export of American capital must have had an adverse effect on building operations and must have been a contributing cause to the present housing shortage. Capital needs for building are problematic. Estimates range from one to five billion dollars. Even the most conservative figures, however, show the need for capital in the United States if building is to play its full part in the restoration of domestic prosperity. Indeed, in every field of domestic endeavor the shortage of capital, evidenced by high interest rates, has been more or less seriously felt and although the United States is now a creditor nation, it must be recalled that at no time in its history, prior to the war, have the people of the United States accumulated enough capital for American needs. The United States was regularly a debtor nation.

### Interest Rates

Business men in the United States have been greatly disturbed over high interest rates. Bankers, however, are not to be charged with the responsibility for this condition. There has not been enough capital to meet the demand at low interest rates. Bidding for the available supply of capital has been vigorous and always in competition with hard-pressed European countries. The prospect of lower interest rates is remote unless the demand for

capital subsides to a great extent, or unless capital accumulations are greatly increased. With Europe still bidding for capital, interest rates are not likely to take a marked and immediate downward trend. Prior to the war, the average amount of new securities issued, recorded and unrecorded, is estimated at three billion dollars a year. During and since the war, it is estimated that these issues have averaged six billions and yet apparently they have not been sufficient to meet capital demands at a low rate of interest. With a lower and lowering price level, domestic capital requirements should diminish, but there will also be a diminution in capital accumulations measured in terms of dollars. The probable trend of interest rates, so closely related to the export of American capital, raises the question of the capacity of the American people to save.

## SAVINGS NOT INDEFINITELY ELASTIC

If the savings of the American people were indefinitely elastic, there would be no problem connected with the export of American capital. There would be no particular problem of interest rates. The hard fact, however, is that savings are not indefinitely expansible. The amount of capital accumulated depends on the national income and the capacity and disposition of the people to save.

Any nation's income has limits. For 1917 the best estimates fixed the total income of the American people at fifty to sixty-five billion dollars. Assuming twenty million families at that time and a bare subsistence cost of living for each at a thousand dollars a year, twenty billion dollars were needed for what may be called a "human maintenance fund." This fund is certainly not less today. Out of the remainder of whatever the national income may be must come all expenditures for comforts, luxuries, taxes and also capital, whether for American industry or for foreigners, or both.

In considering the possible savings of the people of the United States it is helpful to divide the total number of families into income groups. Families with incomes of $1,500 or less can save practically nothing. Families whose incomes range from $1,500 to $5,000 are disposed to spend rather than save, after making their customary investments in insurance and homes. Families with incomes above $5,000 have had their resources eaten into by income and surtaxes. While the greater proportion of capital accumulations during the period 1900 to 1910 came from the last named group and from corporation surpluses, income and profits taxes have cut heavily into what might otherwise have been industrial capital. If the tax program of the United States could be radically revised, this source of capital would be restored, but it seems unlikely that such modification of tax rates will be made as to restore the position of the well-to-do or corporations with respect to this matter of furnishing capital. With the savings power of the high income group seriously impaired, and the low income group without financial leeway, dependence for capital rests more largely on the middle income group—families with incomes from $1,500 to $5,000 a year.

If savings cannot be indefinitely increased, the question arises, "To what use shall capital accumulations be put?" Shall they be turned in large measure to Europe or put to work in the United States? Since savings are not indefinitely expansible, a decision is necessary as to whether they shall be spent here to furnish Europeans with capital goods, or spent here to furnish American industries with such capital goods.

Or perhaps the question should be put thus, To what extent shall American savings be used to furnish Europe with capital goods and to what extent used to furnish capital goods for the rehabilitation of American industries? One thing at least seems clear. The United States cannot export its capital and have it too.

The evident purpose of the proponents of the various plans for financing Europe is to sell American goods,—hence the suggestion that capital advances be conditioned on the expenditure of the funds in American markets. Thus, any real or supposed surplus of goods can be reduced or disposed of—at a price. This plan was followed during the war with the result that there has been an accumulation of Europe's obligations in this country on which interest charges may be paid, but there is no general and confident expectation of the prompt repayment of the principal. The point must not be lost sight of that if payment is made, it will be made chiefly in goods. Europe's purpose in seeking American capital is probably to buy not manufactured products beyond immediate needs, but rather raw materials and equipment. With these her labor can produce finished products to be sold back to the United States or to other countries, perhaps in competition with America.

The scheme of financing sales to Europe would be more alluring if a revival of business on the high price level of the first part of 1920 could be foreseen. But the maintenance of such a price level is neither possible nor desirable. It has already been lowered everywhere. The revival of American business on the basis of lower prices is inevitable. If the price of goods is to be lower, costs must be lowered enough to give a reasonable margin of profit. This applies not only to production for the domestic market but production for foreign markets. The lowering of costs demands a higher degree of efficiency in production. This higher efficiency must be found in capital as well as labor. There must be the use of adequate and efficient capital equipment. American transportation, in particular, has capital needs that must be met. It is important, therefore, in fact of major importance, that the question of business revival be considered in relation to the problem of the extent to which American capital should be exported.

### THE REVIVAL OF AMERICAN BUSINESS

The main thread of the argument in this paper is that the revival of American business will be worked out on the basis of the domestic market and a more normal foreign trade. In turning attention to domestic trade the question of capital needs at home must receive attention. In considering American export trade, due regard must be had not only for schemes for financing that trade, but also for the "doctrine of comparative costs." Full thought must likewise be given to the correction of monetary conditions in Europe through deflation, taxation and economy. The fact must not be overlooked that Europeans must restrict imports. If European nations are to deflate their currencies, pay taxes and work, they will have less demand for anything from the United States other than what aids them to manufacture goods and sell them chiefly in the American market. If certain of the European nations are impoverished, their position will not be greatly improved by America's financing sales of goods without adequate consideration of the risk involved or thought of the extent to which capital should be exported. If Europe is impoverished,

improvement of the condition of her peoples will not be brought about by forcing America to the same condition.

Foreign trade has been emphasized to such a degree of late that thought of business revival is largely in terms of exports and foreign financing. If it were necessary for the people of the United States to await the rehabilitation of Europe before they could enjoy a fuller measure of prosperity, they might have to wait a very long time. Just how long, no one knows! Such a prospect is far from comforting at a time when gloom enough engulfs American business. It was in the hope that a shift of emphasis from foreign to domestic trade would carry a message of encouragement, that this paper was prepared. An American perspective shows that measures at home can and should be taken. There need be no paralysis of action with the world's greatest domestic market at hand and controllable. To emphasize this point, an exaggerated statement might almost be risked, that if we take care of our ninety-two or ninety-three per cent of domestic business, the seven per cent of foreign business will take care of itself.

This is calculated to be a message of comfort and cheer to all who have not lost the power of self-help. What is needed is courage, straight thinking, the restoration of a sound moral code, —but above all, *action*.

# American Trends in Foreign Trade

By F. E. St. Austell
Continental and Commercial National Bank, Chicago

The United States is facing extraordinary conditions with respect to foreign trade and finance, but beneath these extraordinary conditions may be seen indications of the working of natural tendencies. Foreign trade cannot indefinitely remain abnormal.

When a movement to "capture" foreign markets was started, there were a few maligned authorities who advised caution, a policy of careful progress rather than hasty plunging into the intricacies of foreign trade by those who were not sufficiently equipped with practical knowledge of the conduct of that trade. British and European papers did not scoff at American efforts to capture markets. Many of them, however, did point out that the United States would show wisdom in adhering to the development of foreign commerce along lines with which it was familiar. The history of England's overseas commerce proves that foreign trade is of slow and tedious growth, not springing overnight into full bloom as many American merchants and manufacturers apparently expected.

The foreign trade of the United States during the years of the war, and in fact until the latter part of 1919, was not dependent on real trading or salesmanship. Goods were asked for and supplied, the main object being the satisfaction of demands as quickly as possible. Such trading is not normal.

Indirect or triangular trading, if it comes at all, is likely to be of long and slow development. The trend of foreign trade of the United States has been direct. English shipping has a large proportion devoted to "tramp trading," a proportion estimated at more than fifty per cent of its mercan-

tile marine. British tramp steamers seek trade and in the search are not confined to definite routes. Hence it is common to find goods bought by British merchants, say in the Baltic ports, with the proceeds of goods bought in the United States. British ships carry nitrates from Chile to a point where they are needed and then load up again with goods needed elsewhere. Barter, buying goods with goods, is still an essential of foreign trade, but the United States has hitherto confined itself to direct trade and wherever possible, direct payment. Necessity alone is likely to modify this trade habit.

The necessity which will make such modifications will come of a congested population on the seaboard and the consequent turning of attention away from the still undeveloped resources of the interior and the opportunities for business afforded there, to opportunities for trade in foreign lands. Such a change would be difficult of full accomplishment without a change in government policies—such as free trade or very much lower tariff duties, the establishment of free ports, and, generally, a policy of what is commonly known as economic imperialism.

## Natural Trends of Foreign Trade

As it has been well said, "The United States can export goods in the production of which it has the greatest comparative advantages, due to climate, natural resources and the genius of the American people for organization and quantity production." This "doctrine of comparative costs," would, therefore, class as natural and desirable the export of such commodities as foodstuffs, raw materials, automobiles and accessories, machinery of all kinds, typewriters, sewing machines and many articles of quantity production.

Imports will naturally bulk in those commodities which cannot be produced in the United States because of climatic conditions. There is no domestic production of tea, coffee and cocoa. The best China clay is probably imported from England. Without the forests of Assam, many industries would be at a loss for a supply of shellac; the rubber plantations of the Dutch East Indies and Brazil are necessary to the automobile industry, and so on.

The United States has become accustomed to a favorable balance of trade entirely without precedent. However, as domestic production resumes a pre-war character, similar perhaps to that of the period 1900–1913, it seems safe to predict a return of foreign trade conditions similar to those obtaining during the same period. The favorable balance will probably be maintained for some years, but a gradual reduction of that balance until an excess of merchandise imports over merchandise exports is reached, is probable. The balance may be reduced by diminishing exports or by increasing imports or by both causes together.

## A Decreased Favorable Balance

A swing towards alteration of the trade balance was clearly indicated during the latter half of 1919 when exports decreased and imports increased. Exports at that time were going principally to European countries and, as shown in the following table, were greatly reduced during and after July, 1919 when the peak showing a favorable trade balance of $941,000,000 in one month was reached.

(Units of $1,000,000)

| Half-year 1919 | Exports | Imports | Balance |
|---|---|---|---|
| January–June | 4,201 | 1,654 | 2,547 |
| July–December | 3,962 | 2,342 | 1,620 |

As already noted, in the period from July to December, 1919, the reduction of the favorable balance was due more to increased imports than to decreased exports.

The decline of exports to Europe has continued and the following table shows clearly a steady drop in the first half of 1921, even considering the drop in the price level.

TOTAL VOLUME OF EXPORTS

| 1921 | England | France | Germany | Italy | Total European Countries |
|---|---|---|---|---|---|
| January | $102,351,376 | $35,825,135 | $48,862,037 | $29,356,813 | $325,530,940 |
| February | 86,042,893 | 20,432,178 | 36,619,713 | 28,198,613 | 241,793,255 |
| March | 69,623,415 | 19,597,301 | 30,502,988 | 16,908,314 | 199,222,578 |
| April | 74,781,288 | 13,581,753 | 19,143,211 | 13,634,101 | 174,645,581 |
| May | 71,340,509 | 9,862,731 | 20,481,412 | 22,555,727 | 176,822,795 |
| June | 52,072,939 | 12,675,598 | 30,795,515 | 22,742,637 | 173,252,536 |

That the steady falling off in value of exports to all countries which was indicated in the latter part of 1919 has continued during 1920 and the first six months of 1921, is evidenced by the following table:

TOTAL EXPORTS OF MERCHANDISE BY MONTHS

| | *1920* | *1921* |
|---|---|---|
| January | $722,063,790 | $654,271,423 |
| February | 645,145,225 | 486,281,597 |
| March | 819,556,037 | 386,680,346 |
| April | 684,319,392 | 340,338,729 |
| May | 745,523,223 | 329,746,379 |
| June | 629,376,757 | 340,000,000 |
| July | 651,136,478 | |
| August | 578,182,691 | |
| September | 604,686,259 | |
| October | 751,211,370 | |
| November | 676,706,011 | |
| December | 720,852,515 | |

Figures issued by the Department of Commerce covering the fiscal year ending June, 1921, indicate a falling off in foreign trade values of more than $3,000,000,000, both imports and exports declining. Exports decreased to the extent of one billion and a half dollars compared with the last previous fiscal year, while imports fell off in a slightly less degree, though still greater than during any year since 1917 with the exception of the fiscal year 1920. Figures from the same source show a slight increase in exports for June, 1921, the first increase noted since December, 1920. The June total of $340,000,000 exports is however only about half of the value of exports recorded for June, 1920. The difference is mainly accounted for by reduction of prices rather than quantities.

## WHAT AMERICA ACTUALLY EXPORTS AND IMPORTS

In connection with the question of exports, a few facts are significant. It has been customary to refer in somewhat vague terms to exports. Statistics show at a glance relative values that are often beclouded in generalities. "Exports" mean particularly those exports shown in the table following. They have been the most important exports year after year. And, parenthetically it may be noted, that according to careful estimates the export trade of the United States represents

at most not over ten per cent of the total volume of sales; from six to eight per cent is probably a more accurate measure.

RATIO OF EXPORTS OF SELECTED COMMODITIES TO THE TOTAL MERCHANDISE EXPORTS OF THE UNITED STATES (BASED ON VALUES) DURING THE PERIOD 1913–1920

| Calendar Year | Cotton | | | Manufactures Iron and Steel % | Breadstuffs % | Meat and Dairy Products % | Mineral Oil % |
|---|---|---|---|---|---|---|---|
| | Raw % | Manufactured % | Total % | | | | |
| 1913...... | 23.1 | 2.2 | 25.3 | 5.1 | 7.1 | 5.8 | 5.0 |
| 1914...... | 16.2 | 2.3 | 18.5 | 9.4 | 14.6 | 6.6 | 6.6 |
| 1915...... | 11.7 | 1.6 | 13.3 | 10.9 | 14.8 | 7.8 | 4.0 |
| 1916...... | 9.9 | 2.3 | 12.2 | 15.8 | 8.6 | 5.7 | 3.6 |
| 1917...... | 9.2 | 2.5 | 11.7 | 19.9 | 10.1 | 7.0 | 4.0 |
| 1918...... | 10.9 | 2.9 | 13.8 | 16.8 | 13.0 | 15.3 | 5.5 |
| 1919...... | 14.3 | 3.4 | 17.7 | 12.2 | 11.6 | 14.6 | 4.3 |
| 1920...... | 13.8 | 4.8 | 18.6 | 13.5 | 13.1 | 6.6 | 6.6 |
| Average 1914–1920........... | | | 15.1 | 14.1 | 12.2 | 7.6 | 4.9 |

The following table gives the same ratios for the period from January to June, 1921:

| Cotton | | | Manufactures Iron and Steel % | Breadstuffs % | Meat and Dairy Products % | Mineral Oil % |
|---|---|---|---|---|---|---|
| Raw % | Manufactured % | Total % | | | | |
| 8.4 | 2.4 | 10.8 | 18.1 | 14.5 | 7.4 | 9.4 |

The United States is blessed with boundless acres which can produce grain under conditions that leave an exportable surplus. Many European countries may produce more wheat per acre, but they have not the acres to compete with American production. The American genius for organization renders it possible to export manufactures of iron and steel to advantage, also mineral oils. Meats and dairy products are needed throughout the world. The United States can assist in supplying that need. Cotton can be produced in quantities for export and many parts of the world need that cotton. The articles referred to represent sixty per cent of the exports of the United States and there appears every probability that they will continue to do so.

It may be asked what will the United States take in return for these and other exports. The United States produces neither tea, coffee nor cocoa. It will therefore send to Brazil and other coffee-producing countries such goods as those countries can absorb in exchange for coffee. The same applies

to tea and cocoa. The United States produces great quantities of hides and skins, but not enough. These commodities will therefore be imported in the required quantities. The plantations of the Dutch East Indies and Brazil will continue to supply rubber. India will be called upon for jute, shellac and its quota of hides and skins. The United States needs hemp and sisal. These may be regarded as natural imports. Silk and sugar are among the important articles, imports of which show considerable increase from the latter part of 1919. What the United States particularly needs is shown in the table below. The imports which show an increase are not European, but come from Latin America and the Orient.

## TRADE OPPORTUNITIES IN NON-EUROPEAN MARKETS

Since the United States has increased imports from non-European markets, it is well to consider what the export trade of the United States has been with all markets other than those of Europe during the period from 1914 to June, 1921. The table on page fourteen indicates the trend of export trade for the period referred to with Canada, Australia, China, India, Japan, Brazil, Argentine, Chile, and the total of exports to South American countries.

Exports to Canada show a steady increase year by year with the exception of 1919. The year 1920 again shows a healthy increase, while the returns for the first six months of 1921 seem to indicate that the final figures for the year will be nearer those of 1916 than those of 1917, 1918 and 1919.

| Articles | Unit (Millions) | 1917 | 1918 | 1919 | Increase in 1919 over 1918 |
|---|---|---|---|---|---|
| Hides and Skins | lbs. | 631 | 362 | 745 | 383 |
| Coffee | lbs. | 1,287 | 1,052 | 1,334 | 282 |
| Cane Sugar | lbs. | 4,941 | 5,167 | 7,020 | 1,853 |
| Raw Silk | lbs. | 37 | 33 | 45 | 12 |
| Crude Rubber | lbs. | 406 | 326 | 536 | 210 |

What will this country take from Europe? That is a matter difficult to decide under existing conditions, but indications point to the fact that Europe must in the long run be regarded as a competitor. Woolen goods of high quality will be imported, but probably not the cheaper grades. Fine cottons, quality goods which may be sold here at high prices and which are not produced here, will naturally be welcomed. Plushes, velvets, gloves, cosmetics, may also be added to the list, but an habitual and probably natural desire to restrict the influx of directly competitive goods is already apparent.

The dislocation of commerce is perhaps nowhere more manifest or brought nearer home than in the present relations between Canada and the United States. Canada finds itself in the unfortunate position of having to buy for cash and sell to her British and European customers on credit, or not sell; it also suffers from its inability to return to a gold basis. The Dominion is practically on a paper basis and when Canadian funds are quoted at a discount of twelve per cent the onus of the discount may be placed about as

follows: seven per cent is due to being on a paper basis and five per cent due to adverse trade balance. A return to normal conditions will find Canada still high on the list of United States foreign customers, and it is to be hoped that external capital will flow into Canada to help development of resources as was the case in the earlier days in the United States.

Exports to Australia have not shown a backward trend since 1914. During the year 1919 Australia took from the United States goods to the value of over ninety-five millions of dollars and increased that amount in 1920 to nearly one hundred and twenty millions. The figures for the first six months of 1921 indicate that exports to the value of more than fifty-one million dollars have been shipped from the United States to Australia. Australia, in fact Australasia, is growing nearer in terms of distance because of quickening connections, and that it is growing nearer in business sympathy is indicated by the vastly increasing inquiries and the number of business men from the Commonwealth visiting this country.

From China come appeals for goods of all kinds. The great need of China today is increased transportation facilities. She is importing great quantities of machinery, especially agricultural, milling and mining machinery. Development of the resources of the mighty republic will naturally lead to increased commerce with the United States. Trade with China is comparatively new to the United States, but statistics show a growth in value of exports from forty-five million dollars in 1914 to nearly one hundred and forty-six millions in 1920. China is endeavoring to change its status and become an industrial nation. The process will be interesting to American manufacturers.

There appears to be a widespread

EXPORTS OF DOMESTIC AND FOREIGN MERCHANDISE BY COUNTRIES DURING THE PERIOD 1914 TO JULY, 1921

| Calendar year | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 Jan.–June |
|---|---|---|---|---|---|---|---|---|
| Canada | $310,616,232 | $345,045,836 | $604,908,190 | $828,919,971 | $886,877,584 | $734,244,310 | $971,854,093 | $247,183,248 |
| Australia | 45,024,718 | 52,335,439 | 64,334,821 | 58,967,578 | 79,549,198 | 95,085,059 | 119,912,538 | 51,672,045 |
| China | 20,367,701 | 19,748,283 | 31,516,140 | 40,292,059 | 52,958,520 | 105,539,583 | 145,736,732 | 51,712,408 |
| India | 10,378,806 | 15,709,580 | 23,891,754 | 33,599,396 | 40,392,458 | 67,505,528 | 99,857,517 | 33,097,722 |
| Japan | 41,750,979 | 45,731,903 | 109,156,490 | 186,340,304 | 273,774,085 | 366,364,408 | 377,061,896 | 85,022,843 |
| Brazil | 23,275,894 | 33,952,551 | 47,069,050 | 66,157,952 | 57,391,417 | 114,696,309 | 156,740,365 | 35,147,825 |
| Argentine | 27,127,958 | 52,840,965 | 70,874,258 | 107,098,895 | 105,104,548 | 155,899,390 | 213,725,984 | 67,876,352 |
| Chile | 13,627,618 | 17,816,114 | 33,392,887 | 57,549,304 | 66,404,300 | 53,121,067 | 55,310,465 | 17,806,494 |
| Total South America | 91,013,339 | 144,128,681 | 20,266,818 | 311,893,023 | 302,709,610 | 441,747,728 | 623,910,163 | 167,615,000 |

idea that British goods and British institutions have such a hold on India that American competition is almost impossible. That is not true. India is apparently a seething, kaleidoscopic mass of unrest, but beneath that unrest there is a very real spirit of progress. Trade bureaus and commercial associations daily receive large numbers of inquiries from India showing a desire to purchase iron and steel, hardware, machinery, paper, machine tools, office supplies, agricultural implements, safes, wire fencing and numerous other articles. In 1914 this country sent goods only to the value of nearly ten and a half million dollars to India. But the volume of exports has steadily increased, doubling by 1916, and reaching the total of over ninety-nine millions in 1920. India will well repay study. It is a land of great commercial promise.

Turning from India to Brazil, we find a steady growth of trade during 1914, 1915, 1916 and 1917, and an abnormal doubling of values during 1919 and 1920. Coming down to date, it will be seen that exports to Brazil for the first six months of 1921 are stated at just over thirty-five millions, indicating a return to more normal values.

The same trade trend is found in the case of Argentina. The growth of exports is apparent in 1914, 1915, 1916 and 1917. The increase in 1918, 1919 and 1920 is striking, but the first six months of 1921 show the same trend that is indicated in exports to Brazil.

Returns showing the value of exports to Japan are equally interesting. The abnormal increase in the period from 1916 to 1920 is again evident, while, like those of Argentina and Brazil, the figures for the first six months of 1921 reflect the universal drop in values.

### Future Trade Trends Only Partly Predictable

To sum up, it would appear that non-European countries may offer more favorable opportunities for trading than are presented by European countries, a situation that was developing during the period 1900–1913. As before the war, cotton, breadstuffs, manufactures of iron and steel, meat and dairy products and mineral oils will continue to occupy the prominent places in lists of exports. There may be an exclusion of many commodities that swelled the total during the abnormal war period.

The downward trend of exports, clearly indicated in the latter half of 1919, was long ignored by many exporters, and it was hard to drive home the conviction that exports on such a vast scale as they had become accustomed to during the period of war could not be continued indefinitely. The favorable balance running into billions apparently conveyed no warning. American manufacturers were urged to capture the world's markets and a mighty commercial war was predicted, a fight for supremacy in the world's market. So far as the United States is concerned, it is probable that such fight as is necessary will be centered in non-European countries, in markets that are susceptible of development.

Predictions as to what the export trade of the United States will, or should be, are rendered doubly difficult by the presence of many unpredictable factors. Political stability in Europe, a return to sound monetary standards, tariffs, a more even distribution of the gold which is now held by the United States, are such factors, and while these are more or less subject to conjecture, a return to foreign trade controlled by natural tendencies can be hoped for, but not definitely foreseen.

# The Reparations Settlement—Its Relation to American Business Revival

By JAMES G. McDONALD
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OUR business depression is primarily European, not American, in its origin. More than two hundred million human beings east of the Rhine are underproducing and underconsuming. They cannot pay for the necessities, much less the luxuries, of life. Now that the artificial stimulus of the war has ceased, agriculture, industry and commerce in all parts of the world are seriously affected and must continue to be until something like normal conditions are reëstablished in eastern Europe and Russia. For us the effects of post-war deflation have been unusually severe because of the extraordinary expansion of our foreign trade since 1914. The extent of contraction during the last twelve months is strikingly illustrated by the figures just published by the Department of Commerce. During the fiscal year ending June 1, American foreign trade, exports and imports, as compared with the previous year, has fallen off more than \$3,000,000,000. For June, 1921, exports and imports total \$643,000,000 less than for June, 1920. This is a loss at the rate of more than \$7,500,000,000 a year. If we are not to be forced drastically to readjust our export business to proportions as modest as those before 1914, we must concern ourselves with the restoration of the European market, which so far as central and eastern Europe are concerned, depends primarily on Germany.

No serious student of the European economic situation doubts that the primary consideration in Germany's economic recovery is her capacity to meet the reparations and obligations which she has assumed. It is now everywhere recognized that, had the amount of the reparations been definitely fixed at the time of the Peace Conference within Germany's recognized ability to pay, the world would today be immeasurably farther on the road towards economic rehabilitation. The failure to agree upon a definite figure until more than two and one-half years after the Armistice (the Allied Reparations Protocol, which was an ultimatum, was accepted by Germany May 10, 1921) has materially retarded Germany's recovery and consequently her ability to pay, has delayed very seriously the restoration of anything like pre-war economic conditions in eastern and southern Europe, so closely related commercially to Germany, and has been an important factor in bringing on the present industrial depression here by destroying the foreign market for much of our export products, particularly cotton, wheat, copper and machinery. It is, therefore, to the interest of the Allies, to the rest of Europe and to ourselves, that the recent assessment of Germany's obligations should now be considered not from the point of view of war passions or from that of abstract justice, but rather with a view to determining whether this settlement finally agreed upon does tend, in fact, to strengthen the recuperative forces in Europe, or whether this arrangement ought to be modified if it is to contribute most largely to the reconstruction of the shattered fabric of Europe's industrial, agricultural and commercial life.

## THE REPARATIONS SETTLEMENT

On May 1, the Reparations Commission, acting in conformity with the Treaty, announced that it had fixed the capital sum of Germany's obligations at 132,000,000,000 gold marks, or approximately $33,000,000,000. It is not clear whether the, approximately, $1,500,000,000 already paid before May 1 by Germany is to be deducted from this amount. According to the Treaty provisions, the Reparation Commission was required to outline a program for the payment of this entire amount with interest at 5 per cent within thirty years. This would have meant an annual payment by Germany of more than $2,000,000,000—a commitment clearly impossible.

Taking this difficulty into consideration, the Supreme Council of the Allies, doubtless in consultation with the Reparations Commission, worked out a schedule of payments which constitute Germany's real obligations. This schedule accepts the figure of $33,000,000,000 as the total of Germany's capacity and requires the payment annually of $500,000,000 plus 26 per cent of the value of German exports. It is calculated that at present this percentage would amount approximately to $250,000,000, thus bringing the annual payments to three-quarters of a billion dollars. These payments will, of course, be increased proportionately as Germany's export trade increases. This program, then, is, as Mr. Paul D. Cravath pointed out in his detailed article on "The Reparations Settlement" in *The New York Herald*, Sunday, June 26, "the measure, and the sole measure, of the annual payments which Germany is required to make under the new agreement."

It was further provided that the German government deliver before November 1, three series of bonds which together would represent the capital sum of her total obligations. The first series are "A" bonds, to be delivered by July 1, for $3,000,000,000; the second series, "B" bonds, to be delivered by September 1, for $9,500,000,000; the third series, "C" bonds, to be delivered before November 1, for approximately $20,500,000,000. These last, however, are not to have coupons attached, nor are they to bear interest until German industry and trade have recovered sufficiently to pay more than the assessed 6 per cent on the first two bond issues.

It is very surprising that the *Federal Reserve Bulletin* for June, 1921, on page 650, implies that these "C" bonds bear interest in the same way as do the "A" and "B" bonds. This suggestion appears to be in direct contradiction to the text of the Reparations Protocol, reprinted on pages 674–676 of the same issue of the Bulletin and also in contradiction to the official explanation of the Protocol given by Mr. Lloyd George in the House of Commons on May 5, reprinted on page 651.

An amount equal to 6 per cent upon the $12,500,000,000 of the first two series of bonds is to be applied to the payment of interest and sinking funds for Series "A" and "B." This payment is to be made only upon bonds actually outstanding, the remainder to be paid into the sinking fund for the redemption of bonds at par.

Series "C" bonds are to begin bearing interest when the Reparations Commission is convinced that the German payments of $500,000,000 plus 26 per cent of the exports, is more than sufficient to provide for the interest and sinking fund charges on the Series "A" and "B." In any event, the priority of lien of the bonds is to be in the alphabetical order.

## CRUX OF SETTLEMENT IS GERMANY'S FOREIGN TRADE

The crux of the new program lies in the provision that the amount of Germany's annual payments, as well as the period required for satisfaction of her entire obligation, depends primarily upon the volume of her foreign business, more especially her export trade. It is, therefore, possible to estimate with some degree of assurance the probabilities of Germany's capacity to meet her commitments.

Much confusion as to Germany's capacity to pay has been caused by writers and readers not differentiating carefully enough between the gold mark of the normal value of about 24 cents and the paper mark, at present fluctuating between the value of 1.25 cents and 1 cent and a half. The minimum annual payments of Germany, therefore, in terms of paper marks must reach the total of at least 12,000,000,000 paper marks.

It is also frequently urged that, since the Germans at Versailles two and a half years ago offered a reparations payment of 100,000,000,000 gold marks at the rate of 4,000,000,000 annually, surely they can now pay interest at 5 per cent and 1 per cent amortization on a capital sum of 132,000,000,000 gold marks. It should be remembered, however, that Germany predicated this offer upon several conditions, most of which have been ignored, such as the capital sum not bearing interest, the retention of all of German Poland, Silesia, all her merchant marine, the Saar Valley, the colonies, etc. Moreover, since the spring of 1919, general financial disintegration has set in and the reichsmark has depreciated from 8 cents to less than a cent and a half.

It is also suggested that Germany must be prosperous because of the issues during the past year of new securities aggregating approximately 14,000,000,000 marks. But here again we are dealing with paper marks, which means that the total amount of securities issued represents perhaps less than 1,000,000,000 gold marks, or approximately $250,000,000. This total is less than one-tenth the amount of securities issued in the United States during the same time. In the same way startling statistics describing vast dividends of German corporations should be read in the light of these being paper mark dividends on what in most cases is a gold capitalization.

Some estimate of Germany's capacity to make the reparation payments out of the excess of her exports over imports can be made from the trade figures below, for the years immediately preceding the war.

On an average her exports were less than her imports by about 1,500 million marks annually. This deficiency was made up from proceeds of foreign investments, proceeds from shipping, insurance, etc. The bulk of her foreign investments have now been wiped out or are impounded; her mercantile fleet has been taken over by the Allies and her foreign insurance business cannot amount to any considerable item for some time.

It should also be borne in mind that of Germany's export trade before the war, more than 600 millions consisted

IN MILLION GOLD MARKS

| | *1913* | *1912* | *1911* | *1910* | *1909* |
|---|---|---|---|---|---|
| Imports | 10,770 | 10,691 | 9,705 | 8,934 | 8,526 |
| Exports | 10,096 | 8,957 | 8,106 | 7,474 | 6,594 |
| Excess of Imports | 674 | 1,734 | 1,599 | 1,460 | 1,932 |

of coal. It is very doubtful whether she can consider coal as an item of equal importance in her future balance sheet, inasmuch as she is committed to deliver all that she can reasonably spare to the Allies directly on the reparation account. To what extent she will be able to maintain her steel and iron trade (which amounted annually to two billion marks out of ten) is somewhat doubtful, since in the future she will have to import much of her iron ores, which were formerly within her own boundaries, and in view of the limited supply of coal available for that industry.

With her exporting powers thus diminished, her shortage of foodstuffs, fertilizers and other raw materials has become so serious that it is not improbable that during the next few years the balance of trade will be more heavily against Germany than before the war. If through her export business she is unable to pay for the raw materials required for her 60,000,000 people, the general standard of living must be materially reduced and the average rate of production substantially increased. How far this can be done will depend both upon the endurance and morale of the masses and the degree of governmental control that may safely be imposed.

It is a grave question, however, and one carefully to be weighed, how far this "sweating process" of a people may safely go; because the crippling of Germany's foreign purchasing power and of her domestic coal supply (which of necessity is involved in this plan) means continued under-nourishment, poor clothing, freezing and hard work for the poorer classes—a condition which we politely call reduced standard of living. To go too far in this respect would not only be cruel and destructive, but would also, incidentally, be poor business.

### The Gravest Question Is What the World Can Afford to Receive from Germany

But even were it possible for Germany, by reducing her standard of living and increasing her productivity, to create a sufficient surplus for export to fulfil the full measure of her reparations obligations, it is very doubtful if a market could be found for her products. Indeed, in the light of the nearly two years' experience that the Reparations Commission has had in executing the reparation clauses of the Treaty, it is now evident that the problem of securing adequate indemnity from Germany is not so much a question of what Germany owes, or even of what Germany can pay, but rather, as was brilliantly pointed out in a recent address by John Foster Dulles, formerly counsel to the American Peace Commission and member of the Reparation Commission and Supreme Economic Council, a question of what the Allies and the rest of the world think they can afford to receive from Germany.

Germany's initial payment as fixed by the Treaty itself was to be $5,000,000,000, payable before May 1, 1921. The Allied experts during the Peace Conference estimated that these payments would be made principally through ships, coal, machinery, reconstruction material, chemicals, dyestuffs and German labor. The story of the growing unwillingness of the Allies to receive these forms of payments, the only ones which Germany has available in values sufficiently great to count materially towards reparation payments, is illuminating.

German ships are today a drug on the market. British ship owners have protested against the receipt of any more enemy shipping. The Leviathan, rotting in the docks at Hoboken, is another case in point. Moreover, the

Allied experts have recommended that Germany be relieved from the provisions of the Treaty requiring her to build ships on the reparation account.

Coal would seem to be one of the most important of German means of paying reparation. France needs it. Most of the rest of Europe is naturally a consumer of German coal. But the interests of Britain, the largest exporter of coal to the Continent, would be seriously jeopardized by the unrestricted utilization of German coal for indemnity payments, not merely because it would mean direct competition in the coal markets, but also because British industry has long enjoyed the advantage of cheap fuel, in part because of the high price which British coal has commanded in the continental markets.

But what of machinery and reconstruction materials? Surely these economic values France and Belgium have been willing to utilize in large measure. The Treaty gave these states practically an absolute right to requisition whatever German materials in these classes they might desire. Up to October of last year, a report of the Reparation Commission shows that not a single piece of machinery has been accepted by France and very few by Belgium. The French insist that to utilize German machinery and supplies would be to give the German manufacturers a virtual monopoly in supplying parts and replacements.

German dyestuffs and chemicals are everywhere unwelcome. German labor—has it been more welcome in the work of reconstruction in France? Though France strenuously insisted upon her right to demand such assistance, and though Germany has frequently volunteered to supply laborers in large numbers, this form of assistance has not been accepted.

It is thus evident that Germany's ability to pay through the mediums here discussed—ships, coal, machinery, chemicals, dyestuffs and German labor—is seriously limited by the Allies' capacity or willingness to receive payment in these forms. In any event, the bulk of whatever Germany has in liquid assets, ships, assets and securities in Allied countries, rolling stock, etc. has already been taken over. It has been suggested, however, that Germany might transfer to the Allies large blocks of securities in her leading corporations. According to some of the American experts at the Peace Conference, such securities have been unacceptable because of the fear that their receipt might create in the Allied countries an undue interest in the economic recovery of Germany.

But would not the transfer of ownership of considerable portions of German securities to the Allies permanently impair Germany's capacity to make subsequent reparation payments in other forms? Would not the payment of interest and dividend charges to foreign holders of basic securities tend still further to depreciate the reichsmark to such a point as to make it almost valueless? The history of German finance since the Armistice is illuminating on this point. In November, 1918, there were several million marks gold due to neutral countries from Germany. If a statesmanlike program had been worked out at that time, enabling Germany to pay reparations by creating obligations in amounts clearly within her power to pay, and if, at the same time, the blockade had been lifted and Germany had been supplied with the raw materials essential to her rehabilitation, the neutral countries would doubtless have accepted some sort of paper obligation from Germany in payment of the amounts due them. However, since Germany's obligations to the Allies remained indefinite and

since no constructive efforts were made at assisting her recuperation, she has been forced to permit her neutral creditors to sell reichsmarks as rapidly as the market would absorb them. This is one of the decisive reasons for the continued decline of the value of the mark. With depreciated marks these neutrals have made such extensive purchases of movable and immovable property that a considerable percentage of stocks and bonds of German corporations, as well as of state and municipal securities, are now owned by non-Germans. The disastrous effect of such a development is obvious. If Germany is forced to make gold payments beyond either her capacity to pay in goods or the world market's capacity to absorb her products, the ultimate outcome would be the surrender of the country's assets to foreign capitalists, the corresponding dwindling of Germany's domestic power of taxation and the complete cessation of indemnity payments, as in Austria.

### SHOULD GERMANY BE PERMITTED TO PAY?

It is clear, therefore, that only one basic method of payment is left to Germany, that is, through credits accumulated in foreign markets as the result of profits on her export trade. This involves the development of German trade on an unprecedented scale and in markets where the currency is at a high premium. No one can estimate how much Germany could pay if the rest of the world opened their markets to her without let or hindrance and made no serious attempts at competition. But it is obvious that the world will not give Germany a free field and that the United States, least of all, would be willing to do so. Is it not an open question, therefore, whether, from the point of view of American commerce and the revival of American business, Germany ought be permitted to fulfill her reparations commitments?

The statistics in reference to the destination of Germany's exports and the source of her imports is illuminating on this point.

As Mr. Cravath, who cites these figures in his article in *The Herald*, points out:

From this table it appears that 34 per cent of Germany's imports were from the British Empire and the United States and that 25 per cent of her exports were to

GERMAN EXPORTS

| | |
|---|---|
| To the United States | $178,000,000 |
| To the British Empire | 456,000,000 |
| To France | 197,000,000 |
| To Italy | 98,000,000 |
| To Russia | 220,000,000 |
| To the rest of the world | 1,371,000,000 |
| TOTAL | $2,520,000,000 |

GERMAN IMPORTS

| | |
|---|---|
| From the United States | $427,000,000 |
| From the British Empire | 491,000,000 |
| From France | 146,000,000 |
| From Italy | 79,000,000 |
| From Russia | 356,000,000 |
| From the rest of the world | 1,192,000,000 |
| TOTAL | $2,691,000,000 |

those countries. This very practical question may soon be presented: Will the United States, which does not share in the reparation payments, and Great Britain, which receives only 22 per cent of them, be willing to encourage Germany in the policy of reducing her imports from those countries to the minimum and forcing her exports to those countries and to the competitive markets of the world to the maximum?

In the present state of disorganization in Russia and southeastern Europe it would follow that an even larger proportion of German exports than before the war must come to Great Britain and to the United States. In view of the new Administration's announced determination to prevent such "dumping," it would be absurd to expect Germany to be able to accumulate credits in the United States sufficient to pay during a period of years even the minimum annual reparation payment.

### The Possible Ways Out of the Dilemma

Germany, in view of her promise to fulfill to the letter the reparation agreement, has a primary duty to make every effort to meet the demands required. The United States, as a co-victor with the Allies in the war, has a right equal to that of the Allies to interest herself in this question. If, as seems more than probable, at the end of a very few years, events prove that the obligations assessed against Germany are beyond her capacity to pay, one of two policies will be followed: Either the military sanctions provided for in the reparations ultimatum will be enforced and the virtual break-up of Germany begun; or a general revision of the reparations settlement will be made—a revision not primarily in the interest of Germany, but in the interest of the reëstablishment of normal trade conditions throughout the world. To put the question in this way gives a decisive answer as to what the attitude of the United States should be.

The effect of the reëstablishment of Germany as a prosperous going concern upon our own trade and commerce, was succinctly summarized recently by Mr. Bernard M. Baruch, a member of the American Reparations Commission at Paris, as follows:

> If Central Europe could be set to functioning, its organizing ability and genius for distribution would stimulate an increase in all of our activities. The railroad problem would be solved, because of the enormous increase in the volume of business offered. Our agricultural problem would be solved, because of the increased markets for all of the things we grow. Unemployment would cease, and it would be possible, because of the greater volume of business, to decrease the ratio of taxes.

The revival of American business cannot be disassociated from the revival of business in Central Europe. Considerations of self-interest and those of disinterested world statesmanship point towards the use of American influence, financial and political, in behalf of such an interpretation of the reparations settlement or, if later it proves necessary, such a revision of that settlement as will, by most speedily restoring the European market, expedite the return of normal international economic conditions everywhere.

# Great Britain's Control of International Markets

By SRINIVAS R. WAGEL

WHEN Napoleon called the British a nation of shopkeepers he was not in a position to understand the importance of commerce in the polity of the world. But it is clear now why England, of all nations, should have grown to be the most powerful commercial nation in the history of the world within a century after Napoleon. The object of this inquiry is to show how England was able to control international markets.

## ENGLAND BECOMES THE WORLD'S BANKER

From 1830 up to the World War, Great Britain was the supreme authority on international finance. No foreign investment of any kind, no loan of importance to any government in the world and no serious industrial development in any part of the world, has taken place without the concurrence, if not the coöperation of England. Up to very recently, railroad, industrial and mining developments, even in the United States, have been facilitated, if not made possible, by British capital.

It would be absurd to suppose that England set out to become the international banker, or that her own efforts, and not circumstances, were mainly responsible. In the past there have been financial centers other than London. Venice, Hamburg and Amsterdam were the gathering places of bankers and merchants and served in a much smaller way the purposes which London serves to the rest of the world. An international center is a place where those who have surplus bring the surplus for investment, and where those who want to borrow come to borrow. It is the gathering place of all people who have commodities to exchange—a sort of a central market for at least the most important countries in the world. London got the lead shortly after the Dutch wars which made Holland an unimportant power in Europe, but it was after the Napoleonic wars that London became the financial center of the world. The prestige of having led the then allies against Napoleon and the fact that England was the least hurt by the war —while she had lent money to almost all her allies—was sufficient to start England on the road to the financial power which she attained later.

About the same time, adventurous Englishmen were establishing the trade and government of England in the remote corners of the world. This trade was extremely profitable and precious metals were flowing into England from countries like India and China. England had a fairly large accumulation of gold when she definitely turned to the gold standard in 1818. The adoption of the gold standard at that time was a master stroke of policy. As a consequence England alone had stable money. About the twenties and thirties of the last century no country in the world except England had money which had a fixed value. The United States was suffering from a plethora of continental money. France still had a considerable amount of assignats which were fluctuating in value from hour to hour. Russia, Prussia, Bavaria and practically every other country in Europe had little or no metallic circulation. As a matter of fact, the situation then was very closely parallel to the situation today when all the European nations have no metallic circulation and the United States occupies the position of England.

### THE IMPORTANCE OF BRITAIN'S GEOGRAPHIC POSITION

But the adoption of the gold standard alone would not have helped Great Britain to achieve the financial power she did. Great Britain's geographic position was a great help to her. It enabled her to follow a policy of isolation and non-interference with the affairs of the Continent, except when events took place which seriously affected her supremacy. Up to the formation of the *Entente Cordiale*, by which King Edward VII brought Great Britain, France and Russia together, Great Britain had always kept aloof from the struggles and disturbances in Europe. While the various countries in Europe were busy with wars and revolutions, Great Britain was building up a commerce unequaled in the history of the world, up to the war, and was tightening her grip over the finances of practically the whole world. The conflicts between the various European countries—which alone counted, up to very late in the 19th century—and their jealousies of one another enabled Great Britain to be a kind of financial umpire to all those countries. When communications improved and new countries developed commerce, they followed the example of the continental countries of Europe and came to Great Britain.

### ENGLAND'S INDUSTRIAL LEAD ON OTHER NATIONS

While the geographical position was important, Britain's efforts in the direction of manufactures and industry were of equal importance. A great many discoveries and inventions which revolutionized manufacture in Europe had their origin in Great Britain in the early decades of the 19th century; even when they had their origin elsewhere, Great Britain was the first to exploit them. England was rapidly becoming an importer of raw produce and an exporter of finished goods; there were very large profits in manufactures. Other countries in Europe awoke to the situation long after Britain had almost an unassailable supremacy—such a lead that Great Britain became a free trade country while other nations felt it necessary to maintain a protectionist policy. The only country that might have competed with Great Britain at that time was the United States, but in spite of the large natural resources, developments have had to be slow in the United States because of the lack of capital and the political situation. Up to the outbreak of the World War, Great Britain had maintained her supremacy in manufactures, especially of exportable goods, in spite of the advent of serious rivals.

### POLITICAL EXPANSION

The growth of manufactures in England, as well as her foreign trade, was considerably facilitated by the political expansion of England. Like the Spaniards of the 15th and 16th centuries, the British were adventurous and established their domain over distant lands and alien peoples. But, unlike the Spaniards, the British did all in their power to facilitate the exchange of commodities; any such growth of trade always benefited her and helped to strengthen her position as the premier trading nation of the world. This does not mean that Great Britain confined her trade to her colonies and possessions, but the existence of colonies and possessions made her position stronger than that of her rivals. Great Britain attracted merchants and bankers from every part of the world. For instance, a Chinese merchant, wanting to sell to the United States, found it easier to deal through London than to deal direct with New York or San Francisco.

### Why International Trade Kept Centering in Britain—Shipping and Finance

The position of Great Britain as a common carrier of the world and her ability to finance trade gave her a control over the commerce of the world. Because Britain is an island, the British people ever since the dawn of history have been a seafaring nation. But only after the development of steamships did Great Britain become the common carrier of the world. Even up to the fifties of the last century the British position as a carrier was unimportant, the United States having had the largest tonnage. When shipping was revolutionized by the introduction of steamships and the building of boats of large tonnage, England took the lead and practically became the arbiter of the world's shipping. Before the war and for several decades previous, Great Britain had fifty to sixty per cent of the total tonnage of the world, while she controlled for all practical purposes nearly three-fourths of the world's shipping by means of combinations, rings and financial control. It is but natural that a carrier should be the most powerful factor in international commerce. Whatever the value and the quantity of goods one may have in a distant part of the world, they are useless for purposes of trade unless bottoms are secured for their carriage to the consuming or trading markets. Britain was able to make or mar trades which involved the carriage of goods by ships. It is not suggested that she used that power arbitrarily; it is only human however, that Great Britain should have used that power for the benefit of her nationals.

Equally important was Britain's ability to finance commerce. By virtue of her position—geographical, political and industrial—she was always able to accumulate large funds which she was able to use as she liked. As pointed out earlier in this article, political and financial rivalries in Europe helped Great Britain. For instance, a surplus of funds in the French market would not go to Germany, even when the latter needed it; it first came to Great Britain, and was lent by that country to Germany. In this manner, almost every country got into the habit of sending the surplus funds to Great Britain—the world's money market. The bankers of the world knew that any surplus funds they had but could not use at home, could always find a ready market in London, while those who wanted money were also sure that they could borrow in London more easily than in any other financial center.

### World-Wide Trading Knowledge

The British could not manufacture goods for world markets, control the world's shipping and finance foreign trade, without a knowledge of conditions in distant parts of the world. Both by long experience and training Britain has a vast store of information relating to governments, institutions and even private individuals in almost every country in the world. The system of gathering information of such kind was started by Great Britain about a hundred years ago and is being maintained at a very high standard even today. Consequently, if a Peruvian company comes to Great Britain for a loan, the British banker generally has all the information he needs about that institution or, if not, he can cable and easily obtain such information. No other country, with the exception of Germany, has had such a vast amount of information, thoroughly reliable as a rule, and kept up to date. Trade information is easily obtainable for the British, mainly because their institu-

tions in remote parts of the world have been established longer, and British bankers and merchants have coöperated with the natives of the lands in which they are established more closely than any other nationals except those of Germany. There was, again, a close coöperation between the government, and mercantile and banking communities, and that facilitated the gathering of financial information which was usually dependable.

### Methods of Financial Foreign Trade—A Contributing Factor to British Supremacy

For at least five decades before the war, Great Britain had been essentially a creditor nation. The profits of her manufactures and shipping were invested in foreign countries. Some of the investments were direct foreign borrowings, but a large part consisted of credits given by British nationals to merchants of other countries. In order to increase the volume of the trade, the British manufacturers have had to offer inducements, especially to countries which had not developed a pressing want for the manufactures of Great Britain. Then, later on, when Germany and other countries competed with British manufacturers, the latter had to give further facilities in the shape of long credits. British merchants were quite able to grant such credits, because of the development of foreign banking and the fact that London was the bill and acceptance market. The merchants were always reimbursed by the banker immediately on the shipment of goods, while the banker was in a position to wait as long as was necessary before the purchaser in the distant part of the world paid for such goods. The acceptance market was the real pillar of strength to Great Britain in maintaining her position as the financial center of the world. The British banker became a creditor not only with reference to the goods that were shipped from England itself, but also for many transactions that took place between any two countries in the world. As the surplus money in foreign countries was flowing into England, the British banker could negotiate any bill, so long as it was sound and based upon shipments of goods.

The close coöperation between banks on the one hand and trade and manufacturers on the other was another important factor in maintaining the supremacy of London. At every opportunity the banks took care to safeguard the merchants and the merchants reciprocated. No country could borrow in London unless at least 75 per cent of the amount borrowed was spent in the purchase of goods manufactured in Great Britain, or was used in some manner or other to promote British trade. Straight loans to foreign countries without such provision is unheard of in England. Therefore, a foreign loan meant always business activity in England. Of course, the coöperation between banks and manufacturers is close in England because their interests do not conflict—unlike the situation in the United States. Great Britain is essentially a manufacturing country, with a great part of its prosperity depending upon foreign exports; while in the United States the interests of farmers, bankers, manufacturers and retailers conflict to a greater or less extent.

### Britain's Control of the Output of Gold

The factor that helped England a great deal in maintaining her position as the financial center of the world was her position as the chief producer of gold. Ever since the opening of the South African mines, Great Britain has produced from two-thirds to three-fourths of the world's total gold pro-

duction. The control of this gold has given her a power which she could not have had otherwise when the principal countries of the world were all gold standard countries. London's position enabled it to control exchange rates in all parts of the world and to fix rates. This, however, was not done arbitrarily. London, of all centers, was able to fix exchange rates because of its privileged position with regard to the knowledge of the happenings in each nook and corner of the world and the fact that the representatives of trade and banking from almost every country in the world were located in London. This fixing of exchange rates becomes a necessity when bills of every country are negotiated in London and when London is a clearing house not only of money, but of all goods. Before the war, and to a large extent even today, the prices of metals like silver and copper produced mainly in the United States, tin and rubber produced in Malaya, wheat produced in the United States, India, Argentina and Australia, and cotton produced in the United States, India and Egypt, were controlled by London.

### WILL THE UNITED STATES SUCCEED GREAT BRITAIN IN THE CONTROL OF INTERNATIONAL TRADE?

What about the future? There is no doubt that the war has weakened the position of Great Britain materially, although all her competitors except the United States are weaker still. The future is dependent on the ability or willingness of the different countries of the world to maintain the gold standard. At the present moment, no other country in the world, except the United States, has the gold standard. The United States, in spite of the vast strides made during the war, occupies a far from satisfactory position so far as competing with England as the financial center of the world is concerned. Today it is the only creditor nation in the world, with the possible exception of Japan; but, being a creditor nation alone is not sufficient to enable the United States to regulate and control international markets. We have more than half of the world's gold supply, we are not concerned with the turmoils of Europe or Asia, and we are not interested in military adventures. While Great Britain is still the largest common carrier, the United States has built up a shipping trade which will soon outstrip that of Great Britain. Our manufactures are several times the total of those of Great Britain and we have a large exportable surplus, both in raw produce and in manufactured goods. We are obtaining the information to enable us to trade in foreign countries satisfactorily, although in some cases we have paid dearly for it. There is every reason, therefore, to believe that, under normal conditions, we will take the place of Great Britain as the controller of international markets. But Great Britain will endeavor her best to maintain her position. If the nations of Europe should combine and repudiate the gold standard, then it would seriously weaken our position. Or, if the present depression in trade and shipping continues for even half the period of the depression after the Napoleonic wars, we may be unable to utilize our advantage.

# The Probable Trend of Interest Rates

By David Friday
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THE probable trend of interest rates in the United States for the next two years will depend upon the forces which operate on the capital market during that period. Obvious as this sentence may seem, it nevertheless implies a deal of wisdom about the causes which underlie the movements of interest rates. It is wisdom, too, which it took the world a number of centuries to acquire, and which is even yet far from being a part of our common stock of knowledge. For this implies that interest is a price, and that, like all prices, it is the product of the workings of a market.

### Interest Is a Price Which Must Be Forecast by a Study of Capital Supply and Demand

Since it is a market price, the forces which determine it must manifest themselves upon that market, either in the form of changes in supply or in the form of alterations in demand. Nothing can influence the rate of interest, any more than other prices, unless it operates to change either the supply or the demand. This implication of the first sentence may be considered as elemental, and may be accepted without argument or proof. So much has been established since the day when John Locke, at the close of the 17th century, wrote his *Considerations of the Consequences of the Lowering of Interest and Raising the Value of Money.*

In order to forecast the probable trend of interest rates, then, we must forecast the probable course of the demand for capital and the probable supply of capital at different rates of interest.

### The Source of Capital

The supply of capital during any given period of time consists of the excess of production over consumption. If, within the current year, the people of the United States produce fifty billion dollars' worth of goods and services and consume forty-two billion dollars of them in ordinary family and personal living expenses, the national supply of capital for the year will amount to eight billion dollars. This is the amount which will be available to meet the demands of those who desire to borrow capital. The supply of capital is created by people who do not consume the total amount of their product, but who put a portion of it at the disposal of the borrower. They wait until the future before they enjoy, through actual consumption, the fruit of their efforts.

### The Nature of Capital and Capital Demand

The borrowers, who make the demand for capital, desire it for use in production or for consumption and enjoyment. They wish to buy and have for immediate use the goods which the suppliers of the capital have produced. These goods are of two sorts. They may consist of produced goods devoted to further production, like plant and machinery, raw materials and partly finished goods, and other working capital which is to be employed in the business activities in which the borrower is engaged. Or

they may consist of things which are not used in production, but which are employed for personal enjoyment, such as houses, automobiles and furniture. These durable goods used for consumption, together with those used in productive activities, constitute the national capital. Their distinguishing characteristic is that they are durable goods, and that their creation and use involve the expenditure of productive effort by people who are willing to wait before they reap the full fruition of their work. Money is simply one form of these durable goods, and, like other forms of capital wealth, is a useful instrument. Its particular function is to act as a medium of exchange in carrying on the trading activities incident to our modern industrial process.

## An Abundant Supply of Money in Itself Does Not Make Low Interest Rates

It should be noted in passing, that an abundant supply of money does not in itself make interest lower. What the borrower really desires is not money, but the things which money will buy. The important thing that the lender does when he hands him his money is to promise that he will wait for repayment, postponing, in the meantime, his own demand for goods upon the market. This distinction between money and capital is one which must be firmly held in mind if utter confusion is to be avoided in explaining fluctuations in the interest rate.

It is true that while people desire goods ultimately, they borrow not goods, but money; and it would seem, therefore, that more money would mean a larger supply of the thing which is immediately borrowed. And so it is. Momentarily, such an increase does reduce the rate of interest, especially for bank loans. When in 1915 and 1916 Europe sent America almost one billion dollars in gold, this was added to the bank reserves of the country. The increased supply of money and the bank credit which it served to support, kept the bank rate low for a period of two years, despite the fact that the demand for loans increased greatly in this period. As will be seen later, the increase in money during this period was supplemented by an actual increase in saving. But without question the great increase in the supply of money and bank credit had an immediate effect upon the rate of interest.

But no one who has watched the increasing volume of money and credit and the rate of interest since 1917, should labor any longer under the delusion that an increase in the quantity of money brings about a lower rate of interest. The world has never had half the quantity of money and credit before that it has now; and it has not for half a decade seen such high interest rates. The reason why an increase in the quantity of money cannot long keep interest rates low is that it is always accompanied by an increase in the level of prices. Since the borrowers desire not money but goods, they must borrow a larger quantity of money funds than before in order to buy the same amount of capital goods. As soon, therefore, as the increase in money has effected an increase in price, the demand for money funds increases as rapidly as the supply, and interest rates are fully as high as before. All of this has been clear to economists since the days of David Hume. It is an increase in willingness to wait, an increase in savings, not an increase in money, which reduces the rate of interest for long-time loans. The supply of capital consists of savings, and savings consist of the excess of production over consumption.

## Fundamental Propositions Respecting Interest Rates

In discussing the possible trend of interest rates we shall accept the following propositions as fundamental. Interest is the price paid for the use of capital. Capital is created by producing more than one consumes. The essence of the service which the lender performs to the borrower is in the waiting which he undergoes when he places his purchasing power at the disposal of another. From the standpoint of the nation as a whole, the essence of capital creation consists in the application of labor and material to the production of durable goods, like plant, machinery, railroads and public utilities, houses and automobiles, which give off their uses gradually over a period of time, and which therefore require waiting between the production of the goods and the enjoyment of the services which they render. Since interest is a price, it is determined by the forces of supply and demand, and cannot be greatly affected by legal enactment. Money is only one form of capital, and the supply of capital does not depend upon the supply of money, but upon the nation's saving. An increase in the quantity of money will not for any considerable length of time reduce the rate of interest.

## Demand Factors Have Had Major Effect on Interest Rates

By far the most important fluctuations in the fundamental factors which control interest rates occur on the side of demand. Whenever the demand for capital for the construction of plant, machinery, power plants, transportation facilities, automobiles, furniture and musical instruments, has been active, the rate of interest has risen in consequence. This was the situation during the ten years preceding the outbreak of the European war. During that time the rate of interest on high-grade bonds rose from 3½ per cent to almost 5 per cent. This was for seasoned bonds which were already in the hands of permanent investors. The rate paid for new capital obtained from underwriters rose even more. There is no doubt that during this very period the supply of capital grew much more rapidly than it ever had before. The savings deposits of banks, the annual savings through building and loan associations and through life insurance premiums, the reinvestment of profits by corporations, the savings of the farmers, all show increases in the supply of capital which far exceeded anything which this country had seen previous to 1900.

But the demand for capital went on at a rate which outran even this increase in supply. During the decade and a half which ended in 1914 the United States became a great manufacturing nation. Cities in the middle west, like Flint, Michigan, and Akron, Ohio, had been "buckwheat towns" in 1899; in 1913, they were manufacturing centers of importance. Pleasant leisurely cities, like Detroit, grew in a short space of time into manufacturing cities of first rank. The whole public utility field multiplied its investment by about five during this period. What this signifies for the demand for capital will appear in the facts concerning such a corporation as the Bell telephone system. Between 1876 and 1900 this system had invested roughly $300,000,000 in plant and equipment; during the next thirteen years they invested, in addition, twice that amount. The amount of capital invested in electric light and power companies, in street railways, in improvement to the roadway and equipment of steam railroads, far outran any rate of investment which had ever occurred before,

In addition to this large growth of American industries, both public and private, there was an increase in expenditure on better buildings, upon pavements and sidewalks, and above all things else, upon a very much improved and more expensive type of house. No explanation of the increase in the rate of interest which occurred just before the outbreak of the European war is possible without a recognition of the revolution which had occurred during this period in residential construction.

All of this increase in the demand for capital was occasioned in large measure by the swing-out of invention and technical improvements following the advent of electricity and the general application of science to the problems of industry. One invention of the period deserves particular mention because of its importance in the demand for capital. The automobile was developed and came into popular use during this period. This not only called for capital with which to erect factories, but every motor car was itself a source of demand for capital, because it was a durable good whose use involved waiting. By 1914 the people of the United States had accumulated a stock of almost two million automobiles. These had created a demand for capital which had been non-existent previous to this decade.

In the capital markets of the world a similar development in industry created a like increase in the demand for capital, and drove up interest rates. But the outside world had a further source of demand which had been absent during the period from 1871 to 1900: those years had been years of peace. War is always a source of greatly increased demand for capital. A war of first magnitude, such as that of 1914 to 1918, absorbs practically the entire excess of production over consumption while it is going on. In the case of the European nations it went even farther than this and absorbed not only the new supply of capital created during the period of hostilities, but encroached upon the previously created capital as well.

The period from 1900 to 1914 was not free from war as had been the thirty years previous. Just at the close of that thirty years, in 1898, came the Spanish-American war. It was not of sufficient duration or extent to strain the national supply of capital. In 1900 came the Boer war, which cost England more than one billion dollars, to say nothing of the cost to the Boers. In 1904 occurred the Russo-Japanese war; this absorbed the entire capital of both parties to the conflict, and, in addition, called upon the European markets for more than one billion dollars' worth of capital. Only a few years elapsed before the Balkan wars broke out. The demand for capital for military purposes was active, therefore, throughout the decade which preceded the European war. All these forces working to increase the demand for capital had raised the rate of interest by almost one-half between 1904 and 1914.

### The Contrast in Capital Demand During the Periods 1890–1900 and 1900–1914

This period of rising rates of interest may be set in contrast with the period which had preceded it—a period in which interest rates fell even in the face of a fairly small supply of capital. In 1898 the President of the New York State Bankers' Association, an experienced practical banker of unusual sense and insight, said in his annual address:

> The days of six per cent interest are gone, only to return at troubled intervals when normal conditions are disturbed. The choicest investments yield less than 3 per

cent. Some railroad bonds commanding 3½ per cent command a premium. Rentals are proportionately reduced, and these conditions have come to stay. The growing wealth of this country is enormous, and as a permanent condition we must recognize four per cent as a good return for investment.

This statement shows the general situation which prevailed at the time. Interest rates were low, and wise, practical men thought they would not again rise. What this practical banker did not foresee was the great increase in industrial enterprise and activity, accompanied by largely increased profits and an enormous growth in the demand for capital with which men could seek those profits. Nor could he foresee that the world was to enter upon two decades of war and rumors of war, ending in the most destructive orgy which the world had yet witnessed.

During the nineties, the country had experienced a severe depression, which had diminished production, cut down profits, brought financial ruin to individuals and businesses, and discouraged enterprise generally. The profits of the national banks of the United States as a whole were 6½ per cent during the ten years 1890–1899; in the decade 1900–1909, they were 9.88 per cent. These profits are simply a reflection of the profits which were being made in industry generally in the years after 1900. In such a situation the demand for capital was small, even at low rates of interest. After 1899, business had revived, production was thriving, profits were high, the spirit of business enterprise was exuberant, and men demanded large quantities of capital at high rates of interest. When profits are 10 per cent men will bid much higher and more actively than when they are 6½ per cent. The difference between the rates of interest which prevailed in the two decades is to be explained by this difference in the two situations, and by the manner in which that difference affected the demand for capital.

## The Future Trend of Interest Rates Will Be Affected by the Degree of Business Activity

Will the situation for the future be more like that of the nineties, when the demand for capital was low and when interest rates fell in consequence, or will it resemble the decade which followed 1903? Will business men be optimistic? Will their profits be large, and will they be bidding constantly and anxiously for capital at a high rate? If we are entering a period when the business of the country will be characterized by conservatism, by a tendency to expend only such an amount of capital as is necessary to put existing plants in order, rather than to build new plants and promote new enterprises, and if investors are inclined to demand bonds and other safe investments rather than stocks and speculative securities, then the rate of interest is sure to fall.

## Bank Rates Sure to Fall

What then is the outlook for the immediate future? To the extent that the rate of interest means the bank rate for short-time loans, it has fallen even now and seems due to fall further in the near future. Here the demand is for *money*, and the banker's lending power is determined primarily by the state of banking reserves. One year ago the ratio of the reserves of the Federal Reserve Banks to the deposit and Federal Reserve note liabilities was 42.8 per cent. In such a situation the additional lending power of the member banks was rapidly approaching extinction. On June 29, 1921 the reserve ratio stood at 60.8. It bids fair to rise more in the immediate

future. In part, this increase in reserve ratio has been brought about by a decrease in loans of member banks followed by a decrease in deposits, which in turn led to reduced reserve requirements with the Federal Reserve Banks, and to a decrease of approximately twenty per cent in the volume of Federal Reserve notes outstanding since the high point of last December. In part, the improvement in the ratio is due to an increase of five hundred million dollars in the gold reserve of the Federal Reserve banks.

With a reserve ratio of more than 60 per cent, and with a fall in the demand for loans occasioned by the decline in business activity and falling prices, the interest on bank loans could not long remain at its high level. The call rate has fallen materially, for the reserves of the Federal Reserve Banks of New York and Boston are far above those of the other ten banks. It is improbable too, that the Federal Reserve Board will keep rediscount rates at their former level in view of the growing reserve ratio. Bank rates, then, will surely fall.

### Capital Demand for New Enterprises Will Not Be Heavy During the Next Two Years

In an analysis of the more fundamental question of rates on long-time loans, like mortgages and new bond issues of substantial concerns, municipal bonds, and the yield of stable bonds quoted on the exchanges, the situation is more complex. But if one keeps in mind the fundamental fact that the primary factor which makes a large demand for capital is the desire of the people to get capital for the construction of durable permanent wealth, for production and consumption, he will be able to forecast the situation in its main outlines at least. The demand for capital to be used in the promotion of new business enterprises will be comparatively slight during the next two years.

Not a few people believe that the demand for capital for the promotion and extension of industrial plants will be the source of a large demand for all our available capital. They argue that the development of American enterprises has been suspended or checked since the outbreak of the war, and that the resumption of expansion is inevitable. It sounds rather queer to hear almost in the same breath that the expansion of industrial plants has been checked, and that productive capacity has far outrun domestic consumption. If we can produce twenty-five per cent more than the home consumer will purchase, and if industrial profits are lagging in consequence, there can be no great need for immediate expansion. There is much reason to believe that our expansion of industrial plants from July, 1915, to July, 1918, was at a quite unprecedented rate.

We must distinguish here, too, between the desire for capital and the effective demand for capital. The hungry boy outside the candy shop has an enormous desire for the shopkeeper's product, but his wants do not constitute effective demand. So there will be many promoters of business ventures who desire the capital of the investing public, who will not be able to present an argument attractive enough to convert their want into an effective demand. The investor simply will not listen to them at all, and that source of demand which has been so large for the past few years will be much reduced for the period immediately confronting us.

### Capital for Building Will Be Available When the Building Revival Comes

The largest demand that is now in prospect for capital is that which arises

out of building, especially residential construction, and out of the need for public improvements, including improvements of our public utilities and railroad system. If the building boom were actively under way at this moment the acceleration of that demand would offset the decline in other directions in considerable measure. But thus far, the public has not had sufficient confidence in the future price of houses to make it willing to engage in construction on any large scale at present building costs. Before the building trade revives in sufficient degree to make a large draft upon the supply of capital, the volume of that supply will be quite sufficient to meet the demand at a rate materially lower than the one which now prevails.

### Absorption of State and Municipal Bonds Not a Serious Matter

True, the demand for capital from states and municipalities for the prosecution of projects like road-building and for the payment of soldiers' bonuses is large. But it will probably not be in excess of one billion dollars per year and much of it will remain capital instead of being spent for consumption goods. The soldier who draws a bonus of $300 and pays a loan at a bank, or makes a payment against the mortgage on his home, or deposits it in a bank as a savings account, or buys a safe bond already on the market, does not make any demand for new capital. In a nation which is saving, as we probably are even this year, between six and eight billion dollars per annum, the absorption of a billion dollars of state and municipal bonds is not a serious matter.

It is true there is a large volume of refunding of railroad, industrial, and government bonds which must be carried through within the next few years. But refunding does not absorb new capital except to the extent that the bondholder spends his money when he is paid off. Most bondholders are not that sort of people.

### The Foreign Demand for Capital Will Probably Not Reach a Billion a Year

There remains the foreign demand. We hear much these days of the tremendous waste of capital in Europe during the war, and the billions upon billions needed to repair that waste. It is true that Europe needs capital and wants capital for the rehabilitation of her industries. The United States has sent it to her in abundant measure during the last five years. Even since the signing of the Armistice we have been sending her more than two billion dollars per year. And she will desire much capital for the future. But this is again a case of the hungry boy outside the candy shop. Europe's wants for capital will not become effective demand to any such extent as many people believe. It is doubtful whether during the next five years we will send her as much as one billion dollars per year. She would gladly take more than this at good interest rates, but American investors will not be willing to accept the security which she can offer in return for any great amount of capital. The experience of our exporters of capital to Europe thus far is not one to make us optimistic on this point.

### Exaggeration of Need of Exporting Capital

The necessity of exporting capital to keep foreign trade going and thus keep the wheels of American industry turning, seems to me to be much exaggerated. Another statement from the address of the President of the New York Bankers' Association in 1898 shows how easy it is to overestimate the

necessity for export of capital. He puts his conception of the relation of American industry to foreign trade in 1898 thus:

> Our capacity to produce far exceeds our capacity to consume. The home market can no longer keep furnaces in blast or looms in action. That capital may earn its increment and labor be employed enterprise must contend in the markets of the world for the sale of our surplus product. . . . Our money and our credit must follow and aid our merchandise in seeking customers in those countries that consume more than they produce.

This statement was made after business had been stagnant in this country for four years. During the fifteen years which followed, American industry produced an unprecedented volume of goods, and got them all consumed without exporting capital to Europe. The average income per man, woman, and child in this country is only about $500 per annum. Even a college professor's family can consume more than that!

### The Outlook Is for Reduced Capital Demand and Supply

The net export of American capital, after allowing for gold movements, has been reduced 40 per cent since a year ago. The corporate security issues for the first five months of 1921, which require new capital rather than refunding, are likewise 40 per cent below those of 1920. *Taking the situation as a whole the outlook is for a demand, both for bank loans and for long-time investment capital, much below that which we have witnessed during the last five years.*

On the side of supply there will also be a reduction. The very fact that the supply of capital is determined by the excess of production over consumption makes this inevitable. When production decreases, savings must fall unless consumption is cut down by a like amount. In periods of industrial depression the fall in productive output is always the most striking feature of the situation. Consumption falls somewhat, but to a smaller degree than production, so that there is some decline in savings, especially in the earlier stages of business depression when the decline in production is acute. As industry works out of this first stage and production revives in some degree, consumption still remains low. As a result of these forces the supply of capital falls less than does the demand. The result is a decline in the rate of interest.

Not only does the supply decline less than the demand, but in times of depression the available supply is shifted away from the highly risky and speculative market to the market for safe and seasoned securities where the rate is habitually lower. The interest rate to borrowers who have high-grade security to offer falls decidedly, therefore, in such times.

It is a fact worth noting in this connection, that the Liberty bonds sold upon the New York Stock Exchange declined in volume from one billion three hundred million dollars in the first five months of 1920 to seven hundred and thirty million in the corresponding months of 1921. Evidently people are already more anxious to hold the high-grade securities which they have, than to sell them and invest the proceeds in more speculative ventures. As soon as these securities begin to rise decidedly in the market, this tendency will be accelerated.

### The Trend of Interest Rates Will Be Downward

Upon the whole, it is most likely that the supply of capital for well-seasoned securities will equal the demand at a rate of interest decidedly lower than

that which now prevails. We will not return for a long time to the low interest rates of twenty years ago, but it seems entirely likely that we will work well down to the level of 1913. Liberty bonds, unless some unforeseen event arises, should be at par within three years, and all high-grade investment securities of long maturities should rise accordingly.

It is always difficult to forecast for any considerable period in the future the resultant of such complex forces as those which underlie the rate of interest. But the fundamental factors which operate upon the demand for capital and those which determine its supply after a period of business depression are such as will inevitably reduce the rate of interest.

# Industrial Waste

By L. W. Wallace, M.E.
Executive Secretary of the Federated American Engineering Societies

IN January, 1921, Herbert Hoover, as president of the Federated American Engineering Societies, named seventeen engineers to make a study of waste in industry. The federation of engineering societies was new; Mr. Hoover was its first president. At the organizing meeting held in Washington in November, 1920, Mr. Hoover proposed the study and was authorized to make the investigation.

There was peculiar fitness in the subject thus undertaken by the Federated American Engineering Societies, inasmuch as the object of the organization is to further public welfare whenever technical knowledge and engineering experience are involved, and to consider and act upon matters of common concern to the engineering and allied technical professions. The "assay of waste" undertaken by the Committee on Elimination of Waste in Industry was, as Mr. Hoover outlined it, to be a three months' investigation of a series of "samples" from which might be deduced general recommendations applicable to American industry as a whole.

The personnel of the committee consisted of eighteen carefully selected engineers. In selecting the members of the committee, care was taken to secure men of broad experience, clear concepts, and unbiased attitude towards industrial problems. Representatives of managerial, consultant, educational and editorial activities were chosen, with an eye also to their widely distributed and varied industrial contacts.

When the "assay" began, the committee itself selected with great care the engineers who conducted the field investigations. The engineering firm employed to investigate a given industry was chosen because it had a long and a favorable record in that particular type of industry. Thus was brought to bear upon the plans, findings and recommendations, the accumulated and composite knowledge and experience of some fifty or more engineers. In many phases of the work other specialists, such as economists, statisticians, employment managers and industrial physicians had an important part in collecting the material and in drawing up the conclusions. An earnest effort was made to obtain the advice and the accumulated information of every known agency or individual that could throw any light upon the subject in the time allowed.

The essence of the plan adopted by the committee was to gather quickly such concrete information as might be used to stimulate action and to lay the foundation for other studies. It was believed that a limited, yet carefully studied volume of findings obtained through a rapid intensive study, would not impair the value of the facts disclosed or the validity of the recommendations based upon them. So within less than five months the committee completed an "assay" or analysis of waste in six typical branches of industry, and presented a summary of its findings to the Executive Board of the American Engineering Council, which is the governing body of the Federated American Engineering Societies. This took place on June 3, 1921, in St. Louis, at which time a condensed news abstract was given to the press. The complete report is now being printed in book form.

The original plan contemplated ten investigations in the field, including transportation and coal mining. Six have been completed. These include the building trades, men's ready-made clothing, boots and shoes, printing, metal trades and textile manufacturing. In addition to these specific field studies, seven general reports of a statistical character were prepared, each of them dealing with some aspect of industrial waste or its elimination on an extensive or nation-wide basis.

The industries selected for specific study are of great public importance, for their operation directly affects the daily life of everyone. It is believed that the sources of waste in these industries may safely be taken as generally characteristic of the waste in American industries as a whole. It is thought that the findings are not exceptional, and certainly the industries selected were chosen in the belief that they are fairly representative.

### RESPONSIBILITY AND OPPORTUNITY THE POINT OF VIEW

In making the studies upon which the report was based and in preparing the report itself, there was no purpose or desire to place blame upon any individual, group or class. It is believed that the wastes revealed are the inevitable result of methods, practices and relationships of long standing in industry, and the committee has relatively little interest in pointing out the various responsibilities for these. In contrast, it desires to indicate the main opportunities for eliminating waste and whose opportunity or responsibility it may be to adopt proper measures for such elimination.

No attempt has been made to write an academic definition of waste or to speculate in regard to ultimate savings. For the purpose of the report, no attempt has been made to consider all economic wastes. Rather, in the committee's investigations, industrial waste has been thought of as that part of the material, time and human effort expended in production represented by the difference between average attainments on the one hand and the practical attainable performance on the other, as revealed by the detailed reports. In assaying waste in industry the committee has undertaken to evaluate this difference. Thus it has established no theoretical standard of performance or excellence, but has developed a method of measurement to determine the degree of effective use of those factors within which it was believed waste might be discovered. It has conceived that a given practice is not wasteful until a better has been revealed.

### PLAN OF STUDY—QUESTIONNAIRE AND EVALUATION SHEET

The plan of study followed in each of these six branches of industry in-

vestigated was this: at the outset the members of the committee prepared an analysis of those factors and operations in industry in which waste might be expected to be discovered, provided a comparison was made between average practice and the best known practice. From this analysis, a trial questionnaire was prepared to secure information and quantitative data to permit of comparing the record of one plant with another in the same industry. The questionnaire is composed of 58 main topics and 260 leading questions. This indicates the multiplicity of avenues through which waste may occur.

This trial questionnaire was then used in making a study of one plant in each industry. The results of these trial studies were then brought together, compared, reviewed by the committee and, as a result, a revised questionnaire and an evaluation sheet were prepared, to be used in making the studies upon which the report is based. The revised questionnaire, as used with suggested modifications based on the experience accumulated in its use in the field studies, forms an important part of the report.

### CALENDAR OF THE STUDY

The committee was named on January 12; its working program was approved on February 7; the first detailed report was in on April 1, and the last on May 13.

### OUTSTANDING FEATURES OF THE REPORT

Some of the outstanding features developed are:

*First:* There is apparent a lack of a common terminology of management and personnel factors. This lack is the cause of much confusion. To one group the word management means one thing; to another an entirely different meaning is conveyed. The public is confused by a lack of common knowledge of the meaning of industrial and management terms. Take "Collective Bargaining" and "Closed and Open Shop" for examples. We venture to say that if the people were to be asked for a definition or an interpretation, nothing approximating uniformity would be obtained in reply. There is a great need for constructive work in defining such terms. The establishment of a common terminology and a concrete definition of industrial words and phrases would lead to the elimination of much misunderstanding throughout industry.

*Second:* Another very significant need is the creation of standard units of measurements for the various factors of management. This applies particularly to the factors of individual and group performance. It is true that there are some factors of management for which it would be exceedingly difficult if not almost impossible to create and to apply units of measurement, yet there are many for which it can be done. It is also true that some progress has been made in the way of establishing standards for gauging individual and group performance. But in the main the practice is limited and based upon inadequate data and faulty premises. It has not been approached in as thorough and scientific a manner as its importance would justify. In a very large degree the whole system of wage payment is faulty because it is not based upon facts scientifically arrived at; and further, in a great degree definite standards of performance are not known.

*Third:* In the realm of industry there is no agency that can furnish complete, timely and authoritative information concerning any one or all of the important factors of production. Until basic, timely and authoritative data are known, no rational remedy can

be evolved for solving any industrial, economic, social or political problem. On so vital a thing as unemployment there is no central bureau of information; the facts have to be pieced together, so to speak. Last January and February some three to four million workers were out of employment, but no one knows just how many and no one knows what classes of trades were represented and in what proportion. The causes contributing to such conditions and the remedies to apply are still undefined. As such conditions arise from time to time, unemployment committees, boards and commissions are appointed which study the problem, collect data, make recommendations, apply some temporary measures of relief, and disappear. The emergency passes. The information collected; the experience gained and the effectiveness of measures used are not adequately recorded; consequently, when a similar emergency re-occurs it is again approached as a new and an unsolved problem. Information is needed not only to meet emergencies but to meet what appears to be a "normal" unemployment of a million of those classed as gainfully employed. What are the economic, industrial, political, social or mental conditions which cause one out of every forty of those that are supposed to be gainfully employed to be constantly out of employment? No one knows; no one can definitely state what really is the situation and what to do if the apparent facts are as represented.

Again, there is a large seasonal unemployment or intermittent employment, which adds many hundreds of thousands to the normal or constant unemployment. The clothing worker is idle approximately 31 per cent of the year; the shoe-maker, 30 per cent; the building trade worker, 37 per cent and others in like proportion. This being the case, there is a need for a permanent clearing house for unemployment and intermittent employment. It should be the function of such a bureau to make an exhaustive analysis of the many factors connected with unemployment so that such information and accumulated experience may at all times be available. Further, it should study the causes, analyze the remedies applied, make recommendations as to how to alleviate in emergencies, and, finally, suggest what might be done to bring about a more permanent or stable employment cycle. The advantages to accrue are large in social, political, industrial and economic values. For after all, much of the unrest, suspicion and disturbance among workers results from the sub-conscious and conscious fear of unemployment. This is made apparent by the fact that the so-called seasonal industries, as clothing and building, have had the greatest amount of labor disturbance. In 1919, 32 per cent of all strikes in New York were in the clothing and building industries.

In the matter of strikes and lockouts there is no central source of authoritative information. It is the belief of many that there should be central bureaus of information concerning many phases of industry, as the quantity of raw and finished materials, the cost of basic raw materials and the like. Until such bureaus are established, industry as a whole will continue to be wasteful, because without a knowledge of the facts, rational measures of correction cannot be evolved.

*Fourth:* There is a real need for some form of coöperation that will safeguard the interests of the public, yet permit of a free exchange of information between the various organizations of a given industry and between interdependent industries. Many plants of a given industry have developed and per-

fected important and economical management policies and practises which are not known to the industry in general. If they were known in detail by the industry as such, better conditions would prevail. It is also true that there is a great deal of duplication in the expenditure of money for research and other purposes, because of the lack of an interchange of information. Of course, it is recognized that a certain amount of such duplication is inevitable for purely commercial reasons, yet there is here a large area of mutual interest.

At the present time there is very little coöperation, coördination and exchange of information between interdependent industries. The manufacturer of clothing uses the material produced by the textile manufacturer. Likewise, the users of paper take the product of the paper maker. Very naturally there is a close community of interest between the designer and the retailer of ready-made clothing. Yet these two important elements of the clothing industry have not until recently taken any steps towards coöperation and coördination with reference to styles.

*Fifth:* It appears, from the available data, that the amount of waste from the general run of strikes, through the loss of wages and curtailment of production, is less than commonly thought. This of course does not refer to the losses that occur through such strikes as are all inclusive, such as real or threatened strikes on the railroads or in the steel industry.

That the apparent losses are less than commonly thought is in part due to the fact that the general run of strikes occur in seasonal industries. Thus, the total production for a given season may be and is often realized by prolonging the period of activity. For instance, more coal was mined in 1910 than in 1911, although the former year witnessed many protracted strikes involving large numbers of employees. In 1912, with 47 per cent of the entire labor force out on strike, and with an average loss per man of forty days, the output of coal per man, per day and per year, was more than 1911. There was also six days more employment than in 1911, a year which was relatively strikeless. The total production was also more.

In addition to the direct losses through wages and curtailed production there are, of course, indirect losses, but no means is available to determine the extent of such losses. The information obtainable is inadequate on any phase of the problem. There is no agency that has the responsibility and authority to collect the information requisite for a complete and authoritative analysis. There are complete statistics for the period from 1881 to 1905. But since 1906 the Department of Labor has had no authority to "require information relative to strikes from anyone."

*Sixth:* It is a fair statement that for the country as a whole there are no adequate functioning bodies for the adjustment of industrial disputes, and hence the checking of industrial waste that results therefrom. There are almost as many varieties of legal machinery for adjusting labor disputes as there are states. Seven states have laws for local arbitration, but no permanent agency to execute them. Two states legalize permanent district or county boards established by private parties. Nine states provide for arbitration or conciliation by the State Commissioner of Labor or some other state officials. In twenty-seven states there are laws creating a special State Board or Commission for the settlement of labor disputes. In Kansas, a Court of Industrial Relations has been established with very broad powers. Nine states

make provision for local boards as well as for bodies with state-wide powers.

A recent examination shows that all this machinery for the adjustment of industrial disputes is active in eleven states, that is, functions with more or less success; that it is inactive in five states, and dormant in nineteen. That there is a real need for some adequate agency to function in the realm of labor disputes is apparent.

*Seventh:* A lack of rational standardization of methods, practices, policies and designs is a prominent cause for industrial waste. A great advance and refinement can be made towards standardization without in any way limiting individual ingenuity or unnecessarily curtailing the reasonable desires of any person. The possibilities for standardization occur in almost every phase of industry.

Some of the outstanding facts regarding the losses resulting from a lack of standardization are made apparent by the following: The equivalent of 8,000,000 passengers are transported daily by the elevators of the city of New York. More passengers are thus handled than by all the street railway transportation methods used in that city. Notwithstanding its great importance, the architect, the engineer, the contractor, do not design or build the structure around the transportation medium, which is an important factor, but the transportation medium is placed wherever convenient; and it has often happened that the building has been well under way before the elevator was even thought of. Consequently, some of the structure had to be removed in order to make a place for it. The net result of all this lack of systematic planning or standardization has been that most elevators are built to fit the space that happens to be convenient. The economic loss through designing, constructing, installing and operating elevators under such a system is very large.

A very prominent locomotive building company was able to build 163 standard designed locomotives in five weeks, while it was able to produce only 104 locomotives of industrial design in the same period. Losses in production due to lack of standardization arise in every industry. You desire to build a home, an office or a factory building. You ask for designs and bids; six, eight or ten contractors submit plans, specifications, and bills of material. The contract is let to the lowest bidder; but in his price is included not only the cost to him of making the plans and specifications for your job, but also a percentage to cover the cost of all other jobs on which he has placed a bid and has not secured the order, or else a percentage to cover the cost of the other seven or eight bidders, there sometimes being an agreement among the bidders that this be done. In certain cities there are some bidders who always bid high. They do not want the contract. They make their living by the commissions collected on their useless figures.

The examples cited serve to indicate that waste occurs because of change of style or standards, no planning, inadequate standards, faulty and uneconomic designs.

*Eighth:* The 42,000,000 men and women gainfully employed in the United States probably lose 350,000,000 days annually from illness disabilities, including non-industrial accidents. Tuberculosis is the most important disease among industrial workers. Pneumonia, influenza, typhoid fever, hook-worm and malaria are prominent causes of industrial waste through the temporary or permanent loss of earning powers of millions of workers. There are more than 6,000,000 workers with organic diseases resulting mostly

from infection. More than 25,000,000 workers have defective vision requiring correction.

These figures clearly indicate the great economic waste that comes about through subnormal standards of health and vigor.

*Ninth:* Industrial accidents contribute a large amount annually to industrial waste. In 1919 there occurred in industry about 23,000 fatal accidents and about 575,000 non-fatal accidents causing four weeks or more of disability; a total of 3,000,000 accidents causing at least one day's disability. The figures for 1918 were about thirteen per cent higher. In the building industry, enormous losses occur through accidents, the $20,000,000 paid yearly to insurance companies for compensation being only a part of the total cost, even if we disregard all human and spiritual values. The best authorities say that the actual cost of insurance represents not more than twenty-five per cent of the total economic loss which brings the total cost to the industry due to accidents in the vicinity of $120,000,000. Experience has shown that by the adoption of proper measures the waste due to accidents may be reduced from seventy-five to eighty per cent in from two to five years of earnest effort.

* * *

From the foregoing discussion, based upon a careful report it is shown that the industrial waste in the United States is enormous. That much of it can be eliminated is obvious, which conclusion is also supported by the evidence. In every industry studied, outstanding plants were found wherein much of the waste occurring in other plants had been eliminated.

No individual or agency wholly escapes responsibility for waste. The owner, the management, the workers, the public have a definite responsibility and at the same time an opportunity. The degree of responsibility is not fixed nor is there a definite ratio of responsibility for each group. This will vary with different industries. It may not be the same for two plants in the same industry. The evaluation of responsibility for remedying the condition as derived by the Committee places more than fifty per cent upon management and less than twenty-five per cent upon labor. That is to say, if industrial waste is to be eliminated management can through its opportunity remove more than fifty per cent of it, whereas labor can through its opportunity remove less than twenty-five per cent.

If American industry is to flourish, if it is to pass successfully through this trying period, if it is to withstand the foreign competition that is sure to come in the immediate future and at the same time to pay such compensation to all connected with industry as not to lower standards of living and to retard a natural and desirable increase of those standards, those responsible for waste in industry will have to adopt methods and policies, which by practical demonstrations have proven to be efficacious.

# Waste in the Manufacture of Men's and Boys' Ready-to-Wear Clothing[1]

By Thomas Warner Mitchell, Ph.D.
Management Engineer

THE men's and boys' ready-to-wear clothing industry is one of the important industries in the United States. While not comparable in magnitude with the railroad, iron and steel, building and certain other industries, in 1920 its 3,504 manufacturers, employing more than 173,000 workers, were distributed among 42 states and 439 localities. The industry's product, consisting of men's three-piece and two-piece suits, boys' suits, men's and boys' overcoats, rain coats, office coats, automobile dusters, sporting suits, fancy vests and the like, is equivalent to between fifty-eight and seventy millions of three-piece suits a year and represents a retail value of from a billion and a quarter to a billion and a half dollars.

## How the Industry Is Now Conducted

This industry has passed through a number of changes, both in the nationality of its merchant-manufactures and workers and in the form of its organization. These must be noted to understand the existing problems of waste.

Originally, it is said, the merchant-manufacturers were Spanish Jews and the artisans, French Jews whom the former despised. In the course of time proprietorship passed to the French Jews who despised their employes, the Italian Jews. In their turn the Italian-Jew proprietors despised the German-Jew artisans, and now the German-Jew proprietors despise their Russian and Polish-Jew employes. Here and there a Russian Jew has obtained proprietorship, while into the body of workers has come a large element of non-Jewish Italians, Bohemians and Lithuanians.

The people who have had the responsibility of conducting the industry have been, for the most part, not manufacturers, but speculative merchants who buy cloth, have it cut into garment parts in their own cutting departments and send these parts to outside people to be made up into finished garments. Originally, these parts were distributed among the work people at their cramped, ill-ventilated lodging places, mostly in tenement houses, where they were saturated with cooking odors, slept on by the children and made up into garments. A slatternly old Jewish or Italian woman carrying a bundle of garments on her head is even yet a familiar sight in New York City. Much of the "finishing," buttonhole making and button sewing, is still done under the "sweatshop" system. Such work is paid for "by the piece."

This sweatshop system developed into the sub-contracting system. Some of the more enterprising of these home-workers turned their tenement apartments into "shops" by knocking out the partitions, installing a half dozen sewing machines along a bench on one side of the room, a row of seats for hand-workers along another bench on the other side, and tables with hand-pressing boards near the windows. They hired their less enterprising

[1] A part of the subject matter and all of the charts in this article are taken from a report submitted jointly by M. L. Cooke and the author to the American Engineering Council's Committee on "Elimination of Waste in Industry." (*Ed.*)

fellow-workers to assist them, paying them by the piece, and contracted with the merchant-manufacturers to make up garments for them at a stipulated price per garment. Low piece-rates were combined with long hours. The workers received possibly the least money per week of any industrial class in the United States.

In New York City, in more recent years, since the union has become a powerful factor, piece-work was abolished in these contracting shops. Eventually it gave place to the "week-work" system in which the worker is paid on the basis of time he works and not on the basis of what he accomplishes in that time. During the transition there was a period of so-called "week-work with production standards" in which each worker was each day assigned a "stint" or definite amount of work which he had to complete in order to earn his day's pay. These stints were set arbitrarily by the proprietor and were so great as to keep the people working until eight and nine o'clock at night. Finally, the workers rebelled and abolished the stints. Since that experience, the idea of either piece-work or production standards has been anathema to the clothing workers of that city.

Most garment making in Greater New York is done in these contracting shops. There were nearly two thousand of them in February, 1920, as against less that one hundred tailoring shops owned and operated directly by the so-called clothing manufacturers. Most of these have been set up in former four and five room tenement apartments in Manhattan and Brooklyn and are operated by from a dozen to forty or fifty workers. A large portion of these shops are exceedingly dingy and unsanitary. Garments mop up the dirt from the floor. In one case, at least, a visitor found the proprietor ill, asleep on a pile of coats. If the wearers of ready-made or of high-priced Fifth Avenue made-to-measure garments could know what exposure their garments have had to dirt, perspiration and disease germs, they would fumigate them with formaldehyde before wearing them.

The so-called "clothing manufacturers" of New York like the sub-contracting system. It offers them freest play for competitive speculation. It enables them to compete in prices and at the same time safeguard themselves by skilfully playing contractors against contractors so as to save the expense of getting the garments made. It permits them to accommodate themselves with the minimum risk and inconvenience to the highly seasonal demand for their product, concentrate their year's manufacturing into two short periods of from ten to eighteen weeks each and shut down with minimum loss from idle investment and overhead expense. The only "factories" they have to shut down are their own cutting departments. They assume no responsibility for these contractors and their employes during the other sixteen to thirty-two weeks. This contracting system will not give way to direct manufacture in New York City until the workers give better service in the manufacturer's shops than they do in contractor's shops—the reverse of the present situation.

Sub-contracting is a feature of all large clothing markets. Even the Clothcraft Shop did not take over its vest making until late in 1919. However, in Baltimore, Chicago, Cleveland, Philadelphia and Rochester, steps have been taken toward the development of large manufacturing institutions that do all the work of making a garment and use sub-contractors only to supplement their own manufacturing facilities. There are now two or three who pride themselves on doing all their

own manufacturing. The industry is developing in the right direction.

The character of management and the operating ineffectiveness in this industry are all that one would infer from the foregoing description. One establishment in it, however, ranks so high in management as to give a wonderful example of what the others could be if their proprietors had the necessary vision, faith, will, and could rid themselves of the notion that "my business is different." This plant is far from typical and we shall refer to it again only incidentally. A large mass of ephemeral plants are as badly managed as conceivably possible. Most of the manufacturing institutions referred to above have attained mediocre systematic management, while three of them are trying to install scientific management.

It is merely stating a truism to say that the production can be carried on effectively only when each operation contains only necessary work and is performed with the best available appliances, under the most favorable operating conditions, by persons adapted to the work, skilled in and using the most effective known method.

Men's and boys' ready-to-wear clothing for the most part is not manufactured under these conditions. The work content of operations is not standardized. To cite an extreme case, the writer and his assistant found that forty-five per cent of all the work being done in the "finish pressing" operation in a certain coat shop was unnecessary. Out of fifteen pressers no two were doing identical work. Furthermore, each presser walked an average of 150 feet with each coat separately, fifty feet to deliver it to the examiner when he had finished it, fifty feet to the work-ahead pile for the next coat and fifty feet back to the pressing table. A recognized authority in the industry who has gone through the process of standardizing coat and pants shop operations estimates that, on the average, twenty-five per cent of all the work traditionally done is unnecessary.

Substituting the most effective method for the variety of inferior methods offers probably the largest direct opportunity for augmenting the production per man-hour. In so simple an operation as creasing arm-hole seams (a part of "finish pressing") six different methods were found in use among eleven operators working side by side. The best of these methods turned out the work more than two and a half times as rapidly as the poorest. The average productivity of all was forty-three per cent under that of the best. The output and piecework earnings of a certain group of basting pullers was doubled by teaching them the method of the best basting puller in another shop. The authority referred to above states that such waste figures apply to the whole garment making process.

Appliances are not standardized. Machines of a variety of design are found used in the same operation in the same shop. High speed machines are not used in those operations to which they are adapted. Indeed, in the division of the whole process into operations, so much hand work is combined with machine work that the machines do not ordinarily run more than one minute out of six. On the other hand, one manufacturer keeps his machines going six minutes out of ten. Machine or work place tables are too short, too narrow, too high or too low to afford sufficient elbow room and comfort for unhampered operation. Out of scores of establishments visited during the writer's twenty months' contact with this industry only one manufacturer was found who had written standard specifications for these things, based on study.

Furthermore, machines are not maintained in proper operating condition. For instance, in one factory 1,100 operatives are served by two machinists who are kept on the jump from morning until night making emergency makeshift repairs out in the shop while the workers look on and others, idle, await their turns. They state that they do not have time to take a machine into their repair shop and give it a proper over-hauling. Nor does their repair shop contain a single planer, speed lathe or drill press. The sewing machines are in run down condition. These operatives on piece-work lose production and earning power through the frequent breakdowns, the low speeds of their machines and the interruptions caused by frequent thread breaks that come when the internal mechanism is out of proper adjustment. A test in this shop showed that the speed of machines on the same shafts and same operations ranged from 2,250 down to 1,750 stitches per minute, whereas, in another establishment, the machines went 4,000 stitches per minute. Discouragement and dissatisfaction of pieceworkers under such conditions lead to labor turnover.

The above conditions prevail in a certain manufacturing institution. The conditions in the non-institutional little ephemeral shops and contractors shops are left to the reader's imagination. Certain institutional manufacturers do maintain well equipped repair shops and an adequate stock of spare machines. Instead of waiting until machines break down to repair them, they divide all the machines into comparatively small groups, and put each group on a time schedule, so that at regular stated intervals each machine is replaced from the spare stock, taken into the repair shop and the internal mechanism inspected and restored to proper operating condition. This not only largely forestalls and prevents actual breakdown, but maintains all machines in better operating condition.

## The Importance Of Standardization

Without standardization of appliances, conditions, quality and work content, and of work method no valid performance standard can be determined. The great mass of clothing factories are without any performance standards. Some, indeed, do use a stop watch in timing operations for the purpose of setting piece-rates. However, these rate-setters leave the same variable appliances, variable machine speeds, variable lengths of stitch, variable methods that they found—or rather, did *not* find. How can such piece-rates be just? Such "studies" cannot result in performance standards. The piece-rates based on such "timing" are set for the operations in name only, there being no supporting written description of the appliances, conditions, detail of work content and methods whereby to define the operations to which the piece-rates refer. In consequence, the pieceworkers successfully carry on a continuous process of reducing the work content of operations, skimping on quality, and yet maintaining the same piece-rates. The alleged performance standards of other manufacturers that are based on "average past performance" are, of course, equally invalid because they, too, do not refer to definite methods and standardized conditions.

The movement toward setting piece-rates on the basis of such "time studies" was accelerated recently by Impartial Chairman Leiserson's award which permits the Rochester manufacturers to place on piecework the fifty-five per cent of their operations that hitherto had been on week-work. In view of the necessity of getting quickly on-

to a basis that will preserve the operatives' weekly earning power and yet effect a substantial reduction in the unit cost of production, this practice may be condoned if it is distinctly and mutually understood that this is merely a transition step. Likewise, the remnant of the Clothing Manufacturers' Association of New York and the Amalgamated Clothing Workers of America have agreed, in their recent settlement, to the principle of "week-work with production standards" to be determined by negotiation and mutual agreement or by arbitration. The manufacturers individually have been negotiating such standards with their respective shop committees. These standards take the form of specifying the number of workers in each operation in the shop, the wage-rates for forty-four hours work and the number of garments to be delivered each forty-four hours by each section or by the shop as a whole. These agreements really guarantee the manufacturer a minimum rate of output and a wage cost not exceeding a certain maximum. If the output falls below the specified rate, wage-rates are to be scaled proportionately. However, if it rises above this rate wage-rates are not to be raised. This seems an unavoidable step under the circumstances. Moreover, it seems just that performance standards should be determined with the consent and active coöperation of the work people rather than by the arbitrary judgment and fiat of the employer. However, both sides should distinctly recognize that even standards based on mutual agreement cannot long be satisfactory unless they are also based on careful study and standardization of operation content, appliances, conditions and operating method, and, therefore, that the present is a transition period.

Properly determined and properly administered performance standards are a very valuable device both for conducting human relations on a mutually satisfactory basis and for planning and administering production. Under the piecework system they are the basis of just piece-rates. Under the week-work system they are the basis of a just measurement of the individual worker's performance and of the adjustment of his wage-rate to his capacity. Only on the basis of properly determined performance standards can wage scales be determined and administered with mutual satisfaction to employers and employes. One concern has been operating under a system of "week-work with production standards" for several years.[2] The week-work rates refer to these standards. Indeed, for many operations there is a series of progressive standards to each of which a wage-rate corresponds. A record is kept of each worker's performance and compared with the standards. In this way each worker grades himself and determines his own wage-rate by his performance.

By constantly checking actual performance against the standards and promptly investigating the causes of failures to attain standard, the manufacturer can quickly detect and rectify unstandard conditions as they creep in. By encouraging operatives to complain when conditions are not standard, and by promptly and sincerely investigating such complaints, rather than disregarding and discouraging them, valuable coöperation can be obtained in maintaining standard conditions. Performance standards enable the work waiting at each operation to be expressed as *hours of work*. This is a valuable aid in planning the daily dis-

[2] These standards, while determined by mutual agreement, are not based on careful, detailed studies and standardization of processes, conditions, methods and the like.

tribution of workers so as to prevent both congestion of work at some operations and failure of the work supply at others. All sales orders can be expressed in terms of hours of work on the basis of which a balance of work-ahead record can be maintained. Production can be scheduled for months or a season in advance. Delivery promises can be made that can be kept and the sales management can be guided in pushing for more business or refusing orders, in pushing or neglecting this or that class of model. Production can be planned for an entire season. The writer found a certain manufacturer of women's suits planning in December the origination of two new models in order that his plant could continue producing after May first suits of the various model classes in the same proportions for which their shops had been organized. In the realm of expansion the manufacturer can so plan the size of his plant and operating force as to take care of a given assured volume of business by continuous operation. These, together with a scientific make-for-stock policy based on an intelligent use of business statistics, make it possible to eliminate the seasonal wave feature of manufacturing—of which more will be said farther on.

## Planning and Administering Factory Work

The great majority of clothing establishments lack even the mechanism that is necessary for planning and administering work effectively. Some planning is done by shop executives or workers as an incident to other work. The analysis of sales orders, the classification and assemblage of the items into cutting orders and the delivery of piece-goods to the cutting floor must be planned by the management. However, the division of the cutting order into lays, the selection of the specific bolts of piece-goods for the specific lays[3] and the sequence in which they shall go into the lay, is usually planned by the workman on the cutting floor. Recently, a certain large house transferred all of this work to a planning department. Since then each order that was sent into the cutting department has been for a single lay. The piece-goods to be used are chosen by reference to the record of their widths and lengths; the length of the lay is specified, also the sequence in which the various pieces are to be put into the lay. The data necessary for this planning consist of an up-to-the-minute piece-goods record, not only by design but by the individual bolt, showing shrunk width and unused length and the measurements made on a set of standard lays made on paper before the manufacturing season opened—three widths for each model and practical combination of sizes. When the lay is built, instead of having a workman lay in and mark the patterns on the top layer of cloth as was the former practice, a carbon copy of the original standard or master lay is pinned to the top layer. Finally, this concern uses past experience and a tabulation of the items of sales orders received during the first ten days of the sales season to anticipate the distribution of its total sales of the season among the various models. This planning, this labor saving device, and the manufacturing to fill anticipated rather than actual sales items, have together increased the output per man hour of this concern's cutting department sixty per cent. At the same time they have saved a considerable amount of cloth.

In most tailoring shops there are no dispatching stations for recording the progress of work and giving out work assignments. There are no work tickets and, consequently, no route sheets of

[3] Piles for cutting into garment parts.

progress records for the various manufacturing lots. No record is kept of production of the individual worker or the operation or of the balance of work ahead at each operation or of the plant as a whole. Lots of garments introduced at the beginning of the process just drift through without anybody's knowing where they are. In compiling the finished output of a certain shop the writer found it to be the rule that the last garments of any specific manufacturing lot to reach the finished state were more than a week behind the first garment of the lot. Production is measured only in shipments of completed garments to the finished stock room. Operatives either hunt up their own work, or the foreman and his assistants, combining the function of shop porter with that of hiring, instructing, disciplining, wage-adjusting and a multitude of other duties, watch the supply of each worker in their jurisdictions and find and carry work to him. Congestion of work at some points and idleness at others are the usual conditions.

Most of the "institutional" plants have work tickets with which to record individual piece-work performance or individual week-work performance. The former, however, usually consist of piece-work coupons, lot or individual garment, which are retained by the operative and turned in by him to the payroll department once or twice a week. They have no value for other than this one purpose. In these plants there is usually a record of the garments, by lots, that pass certain six, ten or fourteen points in the factory. However, in these rarely is there a complete record of the progress of each lot and of the production and balance of work ahead of each operation. The writer spent much time in the shops of one of these institutions. There was no visit to any shop during which he did not observe a number of operatives, even whole sections of them out of work. The only wigan sewer spent a third of an afternoon sitting with folded hands; all of a small section sat on their work benches in idleness; three out of twelve operatives were idle during the whole of some ten or fifteen minutes the writer was observing a certain pants operation; thirty or more vest buttonhole makers delivered their finishing work (one vest at a time assigned to each worker), wrote their names in a column on a large sheet of paper to establish the order of service, and sat idle until more vests arrived from the previous operation and their numbers were called. Forty-five collar makers did a similar thing for hours and then were sent home at two o'clock in the afternoon. These are a few samples of what was usual all over the shops—even at the peak of the manufacturing season when the production manager was keeping every foreman on a hot griddle because he was not getting out garments rapidly enough.

Besides performance standards, two indispensable requisites of economical shop operation are first, an up-to-the-minute record of the production in each operation and of the amount of work waiting to be done ("balance of work ahead"), and second, versatility of the workers. Without such a record, congestion of work is bound to occur at some points and running out of work is bound to occur at other points before shop executives can become aware of their immanence. With such records the trend of affairs at each point can be known hours or days ahead and adequate measures taken to maintain the even flow of work. These measures consist for the most part of planned transfers of workers. Such transfers are unavoidable if congestion and idleness are to be avoided. Only in a factory so large that it could supply the

whole world, with a perfect attendance, with absolutely no labor turnover, with the various models and sizes of product fed in invariable proportions, and with perfect maintenance of equipment, could the work force in the various operations be so proportioned as to dispense with the frequent reapportionments effected by transfers.

Two manufacturers, in particular, have done very well in these respects. One operates under scientific management; the other is endeavoring to install it. Both have divided their shops into sections of convenient size, each served and directed by an order of work station. Both have work tickets to record individual production, one piece-work, the other week-work with production standards. Both have a suitable set of route cards for each manufacturing lot on which the one keeps an up-to-the-minute, the other, an up-to-the-hour record of the progress made on that lot. Likewise one has an up-to-the-minute, the other an up-to-the-hour, record of the production in each operation and of the balance of work ahead of it. The one, through a policy of grading and rating the various operations according to skill involved and of developing the all-around skill of its workers, has developed a very versatile and mobile work force and re-distributes them each day so as to "balance the shop." He then avoids congestion at any point by setting a production quota for the day that will occupy the "weakest link" the full work day—something that can be done only by having both properly determined performance standards and a recorded knowledge of the capacities of each operative. Production in each operation is stopped as soon as the day's quota has been completed in it. The other maintains a separate "flying squadron" of versatile workers and plans the transfer of these each day on the basis of the balance of work ahead and production record.

All of this implies centralized planning to originate and plan for manufacturing orders, prepare the administrative stationery, collect and interpret reports, plan transfer and the like. Once such a brain is established and consciousness is awakened, it will not be content with the subject matter that is referred to it but will direct its attention forward to the whole work of the season and of future seasons. Manufacturing planning, sales planning, financial planning, both for the immediate and the more remote future, will become interlinked.

## Intermittent Employment—The Seasonal Wave Feature

The most important waste, from the viewpoint of the workers, remains for discussion. It is the seasonal wave feature of the industry that results in a large degree of unemployment during two periods each year. Taking the fluctuations in the employment of cutters—fluctuations in hours worked below the full week as well as fluctuations in the numbers of cutters on the payrolls—as an index to the fluctuations in the employment of all clothing workers, the payroll data of eight representative establishments in various parts of the United States showed that the average employment, exclusive of overtime, is thirty-one per cent under that at the peaks of the busy season.[4] With one concern the average is forty-two per cent less than the peak. Charts 8, 9 and 10, pages 60-61, portray the fluctuations in the number of cutters in the employ of three of these "manufacturing institutions." Representation of the half-time or less worked during the slack seasons would make the valleys much deeper.

[4] These data cover the period from January 1, 1917 to April 17, 1920, but do not cover the present industrial depression.

Unemploymment at the depth of these slack seasons reaches as high as eighty and ninety per cent in some of these institutions, while many small plants shut down altogether. This seasonal wave manufacture means that on the average thirty-one per cent of clothing plant capacity is wasted. In other words, clothing plants are over-equipped forty-five per cent as compared with what would be necessary if the same volume of manufacture were spread uniformly over the year.

How nearly thirty-one per cent of the possible productive time of the workers is thus wasted cannot be stated because there are no means of ascertaining what these displaced workers do. No doubt many of them migrate to the tailor-to-the-trade houses, whose seasons partly dove-tail with those of the ready-to-wear houses, or to other fill-in employment; but with the best they can do there must be great loss of earning power. Were these workers only inanimate tools the waste might stop with that. However, they are living beings with family ties, anxieties, capacity to suffer and minds with which to interpret, form theories and adopt courses of action.

One consequence of their seasonally recurring anxieties and sufferings is a vast fund of antagonism toward their employers and toward employers as a class which may be summed up under the designation, "industrial ill-will." Another is the concrete, practical, though fallacious, industrial philosophy called the "lump-of-labor" or "make-work" theory. This is the belief that "there is so much work to be done" and that the sensible course for workers is to stretch it out and make it last throughout the year.

Workers' antagonism and this philosophy express themselves in various ways. The introduction of labor saving machinery is opposed. Discipline is largely taken out of the hands of employers and centered in the union machinery. There are local movements to substitute week-work for piece-work and to abolish work-tickets in the week-work market. Likewise, all mechanism for recording individual performance is opposed. Suspicion of the manufacturer's motives, in connection with any mechanism he may try to install, hampers and even prevents the installation of the mechanism necessary for the most effective planning and administration of factory work.

This seasonal phase of the industry thus not only constitutes one of the greatest wastes but also constitutes the one big problem that confronts the worker's union. Workers are demanding a satisfactory solution of this problem. Furthermore, until they see satisfactory progress being made toward its solution, their "industrial ill-will" will not only grow, but will retard and, in some places, block the introduction of those measures that are necessary for eliminating other wastes. The solution, however, is not to be found in the measure that the workers have applied or advocate, but in seeking and removing the cause.

The chief cause of seasonal unemployment is the almost universally prevalent sell-then-make basis of manufacture and this in turn is largely dictated by the excessive variety in the styles of product. The trend in recent years, due to the desire of the manufacturers to stimulate additional demand and their fear of losing ground to competitors, has been toward an increasing multiplicity of styles of young men's suits and of varieties of cloth. An illustration followed through to its consequences will be enlightening. One concern offered its customers, in the heavy weight season of 1920, thirty-one models of over-coats, twenty-nine models of sack suits, each in three styles of

lining construction, three combinations of lining materials and nearly 1,100 varieties of cloth. Thus, each customer had a free choice among 278,000 possible combinations. While this case is extreme, it is only the extreme of a widespread trend. (*See* Diagram 1.) This concern's total sales were less than that figure so that had its customers exercised among them all possible choices, every suit made would have had to be cut and processed separately. As a matter of fact, the average size of its manufacturing lots was twelve garments. There were very few lots of more than twenty and far more lots of three garments than of any other number.

Thus, the first consequence of this great variety was very small scale production. Although this concern manufactured 400,000 suits a year, they were put through in these minute lots. This kind of production has two important consequences. First, the direct labor per garment is unnecessarily great because of the very large proportion of those items of work that are done but once for the assignment. It takes as long to get work, open bundles, arrange piles of parts, read making instructions, change or set gauges, change thread, tie up bundles, deliver finished work and the like for a lot of three or twelve as for a lot of one hundred. Further, there is the production loss that comes from frequent interruptions of the rhythm of the operatives' work. In this case the work assignments were so short that one worker out of every five was thus interrupted at least once in every six minutes, and two out of every three were interrupted from one to six or seven times every half hour.

DIAGRAM 1

CHARTS SHOWING DISTRIBUTION OF SALES AMONG MODELS

**Excessive variety of product keeps production on a small lot basis. This variety coupled with a policy of manufacturing only to fill orders received also causes production to come in marked seasonal waves alternating with slack seasons of extensive unemployment.**

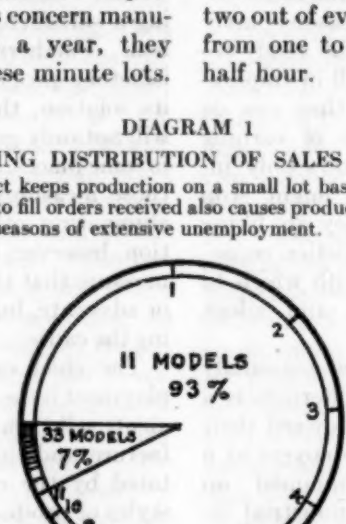


CHART 1

**One manufacturer offered his customers choices from 29 stock models of men's and young men's sack suits and also made up suits in 14 special models designed by certain customers. Each of these was offered in three styles of lining construction, three combinations of lining material and in over 1,000 cloth styles.**

**The effect of this great variety upon the size of manufacturing lots is shown in chart 5. The marked wave character of this firm's employment is pictured in chart 8.**

**That the public does not really demand so great variety is evidenced by the fact that 11 of these models account for 93% of the total sales.**

**The sales of 25 of the remaining models are so small that they cannot really be represented in this chart.**

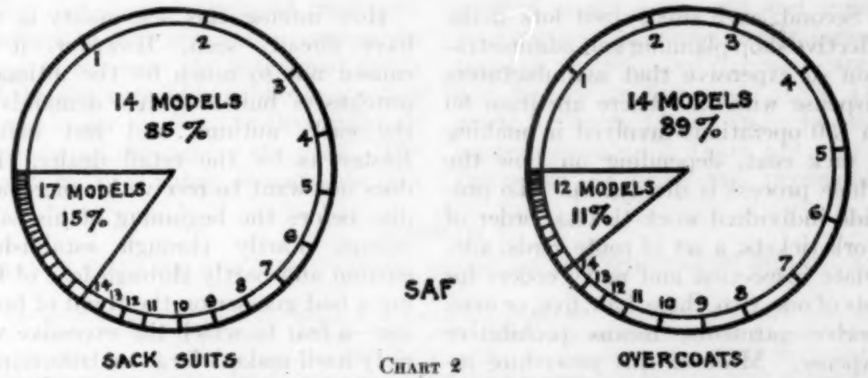


CHART 2

**This manufacturer offers 31 models of sack suits and 26 of overcoats. But the great bulk of demand concentrates on a comparatively few models.**


CHART 3

**This manufacturer offers only two men's and six young men's suit models, each in less than 300 cloth styles. Two-thirds of his sales concentrate on three models. This enables him safely to make up suits of these models for stock between seasons and thus operate his plant continuously at full capacity; also to cut in lots averaging 128 suits each.**

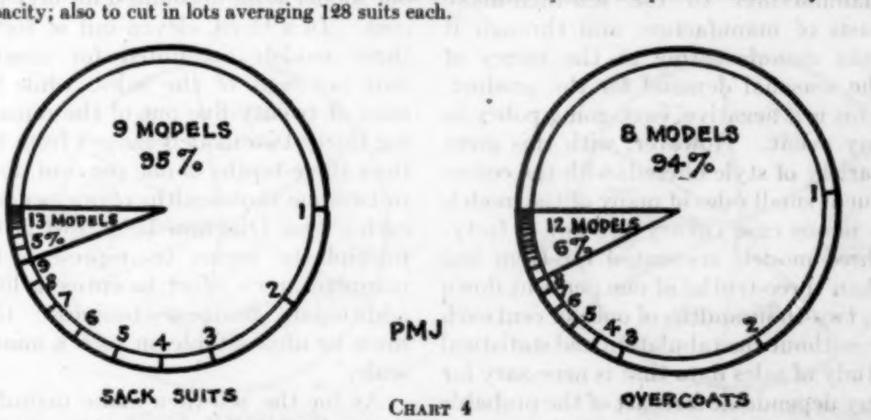


CHART 4

**This manufacturer offered 22 models of sack suits and 20 models of overcoats, each of which was offered in over 1,000 styles of cloth. One model in each accounts for nearly or quite half of all his business. He has a wonderful opportunity to eliminate slack seasons by manufacturing these models for stock.**

Second, such small-sized lots make effective shop planning and administration so expensive that manufacturers dispense with it. There are from 80 to 150 operations involved in making a sack coat, depending on how the whole process is divided up. To provide individual work tickets, order of work tickets, a set of route cards, adequate inspection and move orders for lots of one, two, three, four, five, or even twelve garments, means prohibitive expense. Most of this procedure involves no more expense for a lot of one hundred or five hundred than for a lot of three. Furthermore, *less* time of operators and clerks will be consumed in changing assignments of work in the case of large lots, for with small lots and frequent changes there is bound to be a large amount of awaiting turns. With large lots the expense of such mechanism is negligible, counterbalanced many times over by the benefits. With small lots the expense looms so large relatively that the manufacturer has not the courage to incur it. Hence excessive variety of product bars effective factory management.

The second consequence of this great variety is that it practically forces the manufacturer to the sell-then-make basis of manufacture and through it puts manufacturing at the mercy of the seasonal demand for the product. This is a negative, easy-going policy in any event. However, with this great variety of style offered, with the consequent small sales of many of the models —in one case twenty-five out of forty-three models accounted for from less than three-tenths of one per cent down to two-thousandths of one per cent each —without the tabulation and statistical study of sales data that is necessary for any dependable forecast of the probable relative popularity of the various styles, sell-then-make becomes the only safe manufacturing basis.

How intense this seasonality is, we have already seen. However, it is caused not so much by the ultimate purchasers' bunching their demands in the early autumn and just before Easter as by the retail dealer. He does not want to receive his merchandise before the beginning of his sales season. Partly through established custom and partly through fear of being a bad guesser on the trend of fashion—a fear to which the excessive variety itself makes a large contribution—he does not want to order too long in advance. For the same reason the manufacturer waits until the last possible moment to make final decision concerning the models to be shown. Consequently, receipt of sales orders precedes the opening of the new retail season by too brief a period, and manufacturing must be bunched.

A study of sales statistics indicates that neither the consuming public nor the dealers really demand such excessive variety of styles. In one case eleven out of thirty-one sack suit models accounted for seventy-eight and one-fourth per cent of the total sales. In another, nine out of twenty-two models accounted for ninety-four per cent, and one model alone accounted for fifty per cent. In a third, eleven out of forty-three models accounted for ninety-four per cent of the sales, while the sales of twenty-five out of the remaining thirty-two models ranged from less than three-tenths of one per cent down to two-one thousandths of one per cent each. (*See* Diagram 1.) Most of the multiplicity seems to represent the manufacturer's effort to entice a little additional business—business that must be unprofitable on such a minute scale.

As for the sell-then-make manufacturing basis, all large clothing houses have always done a considerable amount of making for stock during slack seasons,

They have simply reduced their production to fifty per cent or twenty per cent of normal. An intelligent study of their sales would enable them safely to make for stock up to their full normal output throughout the year. The great bulk of sales, seventy-one per cent of men's sack suits and eighty-nine per cent of young men's, concentrate on the so-called "regular" forms and largely on five sizes. (*See* Diagram 7, Charts 19 and 20.) In every manufacturer's list there are two or three models that are persistently

### DIAGRAM 7

### CHARTS SHOWING DISTRIBUTION OF SALES AMONG DIFFERENT SHAPES AND SIZES

**The great bulk—86½%—of the demand for men's and young men's ready-to-wear sack suits is for the "regular" or standard shape or form. Men's "regulars" concentrate largely on 5 sizes, namely; 37, 38, 30, 40 and 42. Young men's regulars also concentrate on 5 sizes, namely; 36, 37, 38, 39 and 40.**

**Manufacture of regulars for stock in conservative styles in these sizes and in a range of tasty (not flashy) suitings is safe up to such limits as fully to bridge the traditional slack sales seasons.**

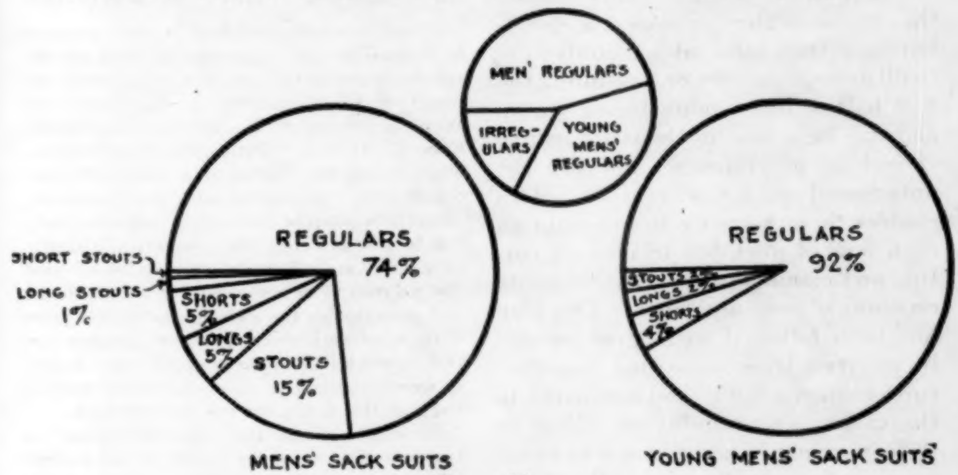


Chart 19

SHAPES

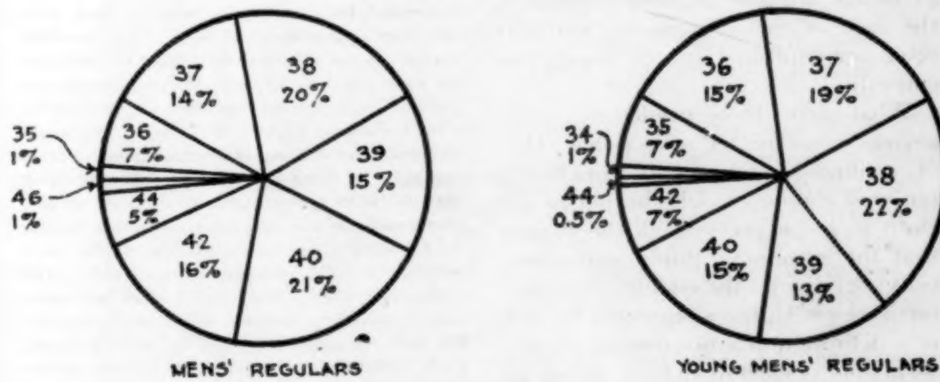


Chart 20

SIZES

much better sellers than the others season after season over a fairly long period. Likewise, there are a number of good (not freakish and flashy) cloth styles which the manufacturer can practically be sure of selling in considerable quantities. These are the materials with which to bridge the slack seasons by manufacturing for stock.

Several houses have found that the proportion in which their sales of the first two weeks of the sales season divide themselves among the various models are substantially the same as the proportions for the entire season. On this basis they *estimate* the distribution of their total sales, manufacture to fill *anticipated* sales orders during the first half of the manufacturing season and still have time in the latter half to correct any discrepancies between the anticipated and the actual sales. This enables them not only to maintain an even flow of work but to plan all cutting and manufacturing so as to secure economy of cloth and labor. This plan has been followed with great success by a certain large house that manufactures women's suits—and compared to the variety and rapidity of change in style in women's suits, changes in men's wear are not mentionable. What can be accomplished in the field of women's garments can also be accomplished in the field of men's garments and has been accomplished by at least two concerns.

What seems to be needed is a courageous, constructive sales policy, that (1) confines the business to from five to ten well chosen models, in 200 to 300 cloth styles, expressing all the variety that the consuming public can appreciate; (2) divides the country into sales territories with the assignment to each of a definite quota not only of all garments but of each model; (3) stands for a vigorous, positive salesmanship instead of the order-accepting kind, backed up by effective national advertising to carry out the sales policy and sell the quotas.[5]

For instance, one concern offers but eight models of sack suits, each in less than 300 cloth styles. It is able to cut in lots averaging 128 garments and one cloth style each. Contrast this with average lots of twelve garments cited in a foregoing illustration. (*See* Diagram 2.) Two-thirds of its sales concentrate on three of these models (*See* Diagram 1, chart 3.) This concern manufactures these three models for stock during the slack seasons, operates at nearly full

[5] The *Literary Digest* of June 18, 1921, seems to be amused by this suggestion of reducing the variety offered in men's wear as expressed in the report of the Committee on Elimination of Waste in Industry to the American Engineering Council. It says, "The Committee, therefore, would standardize clothing style along with automobile tires," and quotes other press comment, "Let the fashions be standardized and everybody will be just as happy, the committee evidently presumes," and "But, nevertheless, we are glad that no body of men succeeded in standardizing and perpetuating the styles of the middle years of the nineteenth century, and we are quite sure that those who come after us would object mightily were they forced to adopt some of the styles in vogue in this first quarter of the twentieth."

Those who assume that "standardization" in the sense of reducing the variety of the production means perpetuation of a few existing designs are very much mistaken. The Packard Motor Works make each year but two main designs of motor car, the six and the twin six, each with only four or five styles of body. Yet the 1921 models are not identical with those of 1920 and are superseded by slightly different models for 1922: an improvement is made in the carburetor, a line is changed slightly on the hood, and so on. So would the shifting of popular demand from one style of model to another offer clothing manufacturers opportunities to drop out an old, once popular model and substitute a new design. As for variety, we would ask the public press whether if 1,272 manufacturers of men's and young men's suits should each offer but seven models (no seven identical with any other seven, for each manufacturer has its own designer) each in 200 styles of cloth, in its opinion the resulting 1,780,800 varieties in combination of model and cloth would be insufficient for the American adult and adolescent male public!

## DIAGRAM 2

### CHARTS SHOWING NUMBERS OF GARMENTS IN CUTTING LOTS

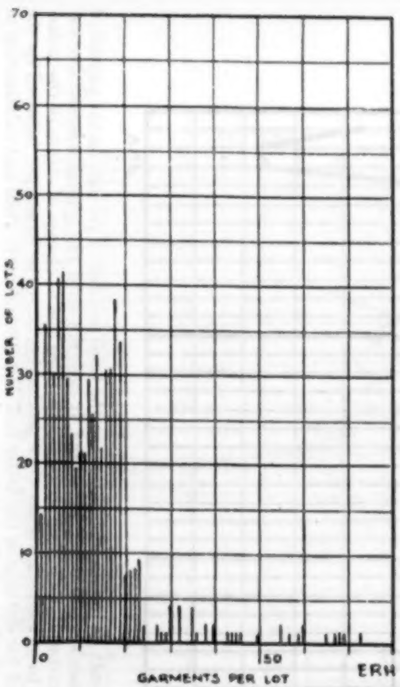


CHART 5

This manufacturer of men's and young men's sack suits offers a great variety in model and cloth style and ordinarily manufactures only to fill orders.

This policy causes production to take place in small lots as here shown. Rarely do manufacturing lots exceed 20 garments to the lot and an astonishing proportion of them are in lots of 7, 6, 5, 4, 3, and even 2 garments each. Observe that far more orders are of 3 garments each than of any other size.

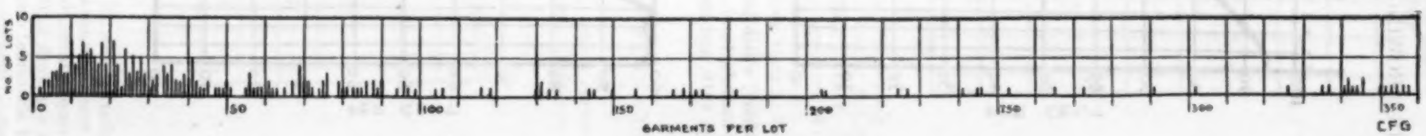


CHART 6

This manufacturer offers only 8 models of suits, each in less than 300 cloth styles. This enables him to cut in lots averaging 128 garments each. The large number of small sized lots shown on this diagram probably represent the clean up toward the end of the season.

DIAGRAM 4

CHARTS SHOWING MONTH TO MONTH FLUCTUATIONS IN TOTAL WORKING FORCES

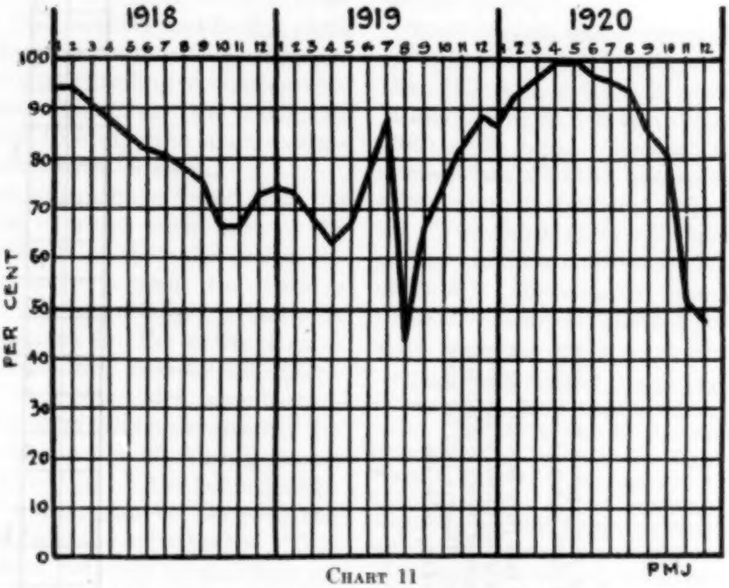


CHART 11

This chart, which pictures the month to month fluctuations in the total working force of another clothing manufacturer, shows a slack season in October and November, 1918, another in March, April and May, 1919, and the oncoming industrial depression commencing after May, 1920.

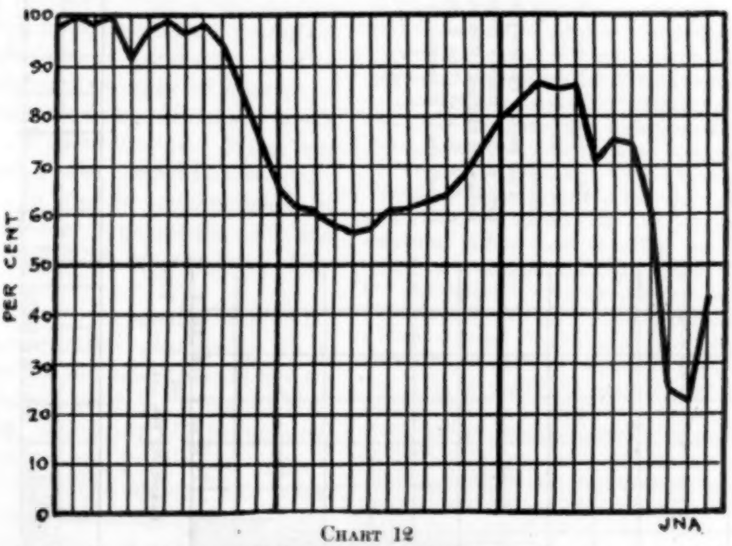


CHART 12

This chart shows the month to month fluctuations in the total number of persons on the payroll of another manufacturer of men's ready to wear clothing. It does not show the typical seasonal fluctuations in employment, but rather those longer period fluctuations due to change of status of the industry from war work in 1918 to an uncertain peace-time production after the Armistice, followed by the period of abnormal demand for clothing in the latter half of 1919 and early 1920 and culminating in the industrial depression in the latter half of 1920.

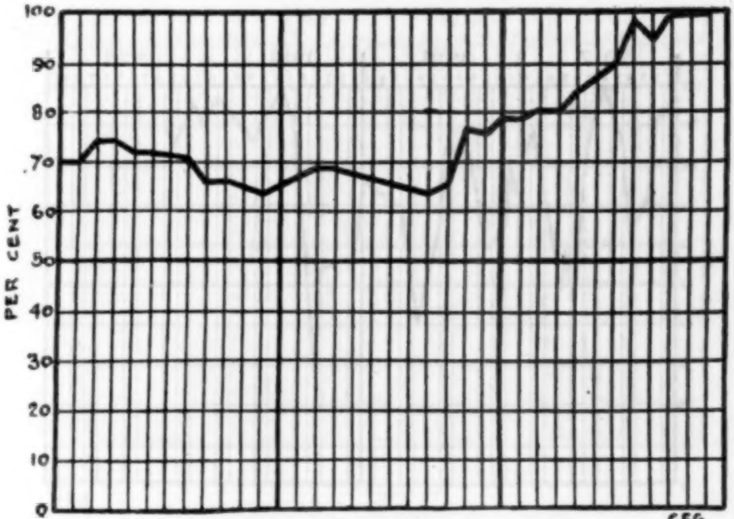


CHART 13

This chart shows what can be accomplished by a manufacturer who sincerely, resolutely and intelligently sets out to manufacture for stock and adopts an aggressive positive sales policy. The working force declined slightly in the latter half of 1918 and again in the latter part of 1919. But the average force is only 6% under the maximum. These declines were due to the competition of the war-working industries in 1918 and to the return of soldiers to claim their wives and sweethearts in 1919. In the latter half of 1920, when other clothing manufacturers were shutting down their factories because of industrial depression, this establishment, which is operated under scientific management, kept its force operating at nearly full capacity.

## DIAGRAM 3

### CHARTS SHOWING WEEK TO WEEK FLUCTUATIONS IN PERSONNEL IN CUTTING DEPARTMENTS

All garments must be "cut" before being "tailored." Hence these charts, which represent the week to week changes in the number of cutters in the employ of these clothing manufacturers, picture the pronounced seasonal character of this industry.

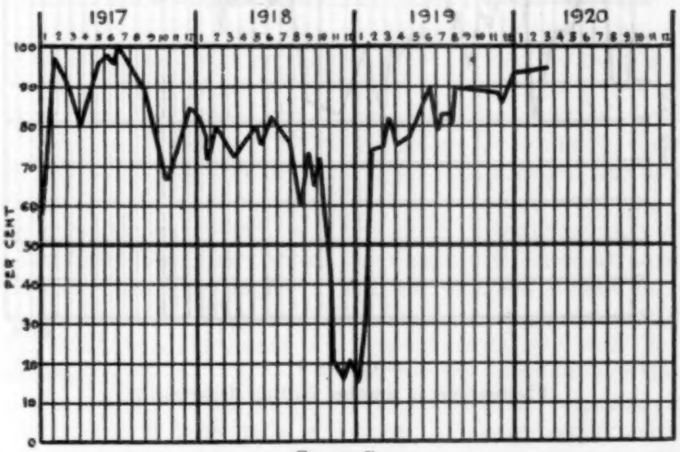


CHART 7

Composite chart showing fluctuations in twelve New York cutting departments.

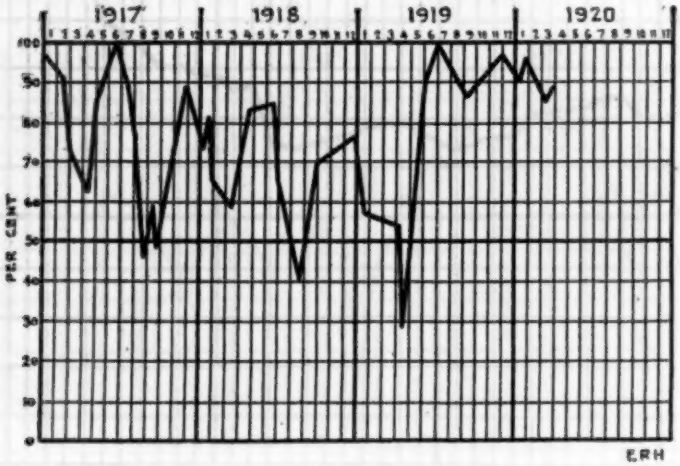


CHART 8
**Fluctuations in one cutting department.**

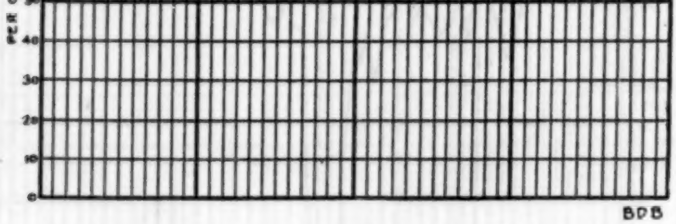


CHART 9
**Fluctuations in another cutting department.**

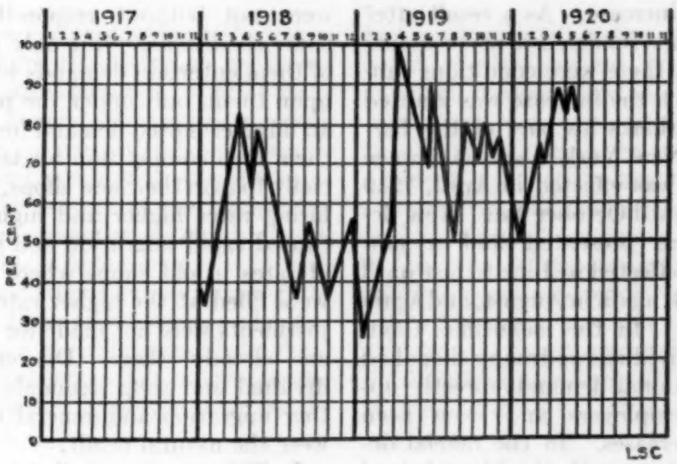


Chart 10
**Fluctuations in a third cutting department.**

capacity the year around (*See* Diagram 4, Chart 13), has the good-will and hearty coöperation of its employes and has all the mechanism necessary for effective, economical planning and operation of its plant.

## Industrial Relations

We have spoken of the fund of industrial ill-will of the workers toward their employers that has grown largely out of the spectacular recurring seasonal unemployment. The workers also have vivid memories of the wage pittances they received in their former years of sweatshop exploitation. The result in recent years has been a rapid unionization of the industry. This has not only brought wage-rates up to proper relationship with wage-rates in other industries, and even beyond, and established the forty-four hour week, but also has done much to improve sanitation in the factories. The union policy looks toward the abolishment of the sub-contracting system.

Industrial discord is still an important source of waste. A large part of the New York market was idle during a fourteen weeks strike immediately following the Armistice. Unionization strikes held another group idle several weeks in the summer of 1919; likewise, a group of Chicago plants. As we write, the New York market is just resuming operations after a contest of strength, commencing officially in December, 1920 in what one party called a "strike" the other a "lock-out," to destroy the union and reëstablish the open shop and piece-work. A similar contest has been going on in Boston. Since the unionization of the industry, however, official strikes have been relatively infrequent. The collective bargaining agreements forbid strikes, lock-outs and stoppages and provide impartial machinery and procedure for adjusting disputes. The higher union leaders are men of intelligence and understanding, sometimes rising to statesmanship, who act in accordance with these arrangements and do not sanction strikes and stoppages.

In most markets, however, these arrangements are still so new that neither the employes nor the employers appreciate their responsibilities under them. In wage settlements the worker concentrates his attention on the question of whether he is to get the de-

sired wage increase. As a result after the decision is rendered it never occurs to him that there were conditions subject to which the increase was granted and he overlooks his part of the bargain. In New York a seasonal wage settlement was effected in April, 1919 to endure until October 1st. New demands were presented and a new settlement effected in June to last until December 1, again in August, and again in October. In the meantime, thousands of individuals and many shops had made additional demands directly upon their employers and even been granted increases. In the official demands in August, both sides pledged themselves in advance to abide by the arbitrator's decision. He awarded a general five-dollars-a-week increase coupled with the order that no worker and no union representative should make any further individual or shop demand upon any employer during the period for which the settlement was to endure, and that no employer was to entertain any such demand if made. The award was announced at 1:30 a. m. Before 6:00 p. m. one union delegate had demanded of the employers an additional one dollar a week for the employes in six shops and had his demand granted. On the first pay day after the award, another manufacturer was greeted with a demand from his employes for an additional increase of three dollars. When reminded that they had just received a five-dollar increase they naively replied: "Oh! The union got us that. Now *you* must do something for us." The arbitrator's order was freely disobeyed by many workpeople, many union delegates and many employers. Many unofficial shop increases were granted. A number of outlaw strikes occurred in other shops to enforce demands that had been refused. This all culminated in fresh official demands in October. The employers, however, were not without responsibility for these conditions. Not only did many of them entertain demands when made upon them, but, under the pressure of an unprecedented demand for clothing, their keen competition for labor, especially to man their new shops, advanced hiring rates higher and higher. This caused rapid migration and inequality of rates in old shops where vacancies were filled at the higher rates and adjustments were not made for the workers already there. Discontent, individual and shop demands, and further migration and general instability were the natural result.

In Chicago, where collective bargaining started in the factories of Hart, Schaffner & Marx in 1911, the leaders are more experienced and the workers are better educated concerning their responsibilities under agreements. Nevertheless stoppages are not infrequent, and, although general wage adjustments are not demanded except in the seasonal settlements, there has been, nevertheless, a continuous process of raising wage rates by the process of "nibbling" at individual piece-rates in individual factories. Apparently the same process has been going on in other markets.

This is by no means the whole story, however. The writer has listened with great interest while a union deputy took, one by one, twenty-seven cutters to task very earnestly and very forcibly for not keeping their production up to the standards agreed upon. The tailors of a certain large house compelled the cutters to coöperate with the management in working out mutually satisfactory performance standards and consented to a substantial increase in their own standards. The union has recognized the necessity of reducing production costs in both Chicago and New York, negotiating a ten per cent reduction in wage rates in the former and

a fifteen per cent reduction in the latter. In New York they have so far recognized the manufacturers' need of stabilized and dependable costs as to recede from their former attitude and negotiate shop and sectional production standards. We can expect much imperfection in the present stage of experience, but progress is being made.

Here and there manufacturing institutions, those that have passed out of the hands of their founders into those of the second generation, are feeling the need of something better than the direct autocratic unsystematic management of the original proprietor, or even the mediocre systematic management that they have attained. With this in view, they have engaged management engineers to assist them onto a more scientific basis. At least five such concerns have made this move within the last two years. Although the men's and boys' ready-to-wear clothing industry has been and is still one of the worst and most wastefully managed industries in the United States, it is making progress out of that condition.

# Standards for Granting Credit

By J. H. TREGOE

Secretary-Treasurer National Association of Credit Men

CREDIT is the least understood of all the elements entering into commerce. Digging under the surface of American industrial history, one must recognize that credit illiteracy has largely been responsible for both hectic flushes and serious periodic depressions.

1837 was a year made distinctive by the second of our major panics. In that year 788 state banks with a capital of 290 millions were in operation. These banks had outstanding note issues of 149 millions and loans of 525 millions. Statistics of the mercantile credits that year are not available, but the over-extended condition of the banks was indicative of a prevailing speculation in real estate, internal improvements and business generally. There was apparently no thought for the future, and the bursting of the inflated credit bubble came, no doubt, as a surprise when it could have been clearly foreseen by the careful student. Credit illiteracy prevailed at that period and the violation of fundamental credit laws produced serious reactions and disorderly liquidation.

Moving forward two decades to 1857, a year marked by the third major panic in the nation's commerce, we find that 1,416 state banks with a capital of 371 millions and deposits of 231 millions were then in operation. The total sum of specie owned by these banks amounted to 58 millions. They had outstanding note issues of 215 millions and loans of 684 millions. Once again speculation was rife and fundamental laws were being attacked at every turn. Business was in a hectic flush and the complete unsoundness of the situation was demonstrated in a serious reaction and another disorderly liquidation.

Figures are perhaps unnecessary in a review of the major panics of 1873 and 1893. It is rather toward the peculiar psychology of the panic of 1893 that attention may be turned. That panic shows very clearly a certain attitude—that Americans have too frequently rated the acquisition of things as superior to the making of standards. Removing the surface sod in an investigation of credit history, we find con-

stantly alongside the wonderful ambition of the American temperament and the tremendous powers of the nation to invent and to produce, an appalling absence of intelligent perception of the uses of credit.

Coming down to the present period, and dissolving the existing depression into its component parts, we find violations of every canon of the credit decalogue and a repetition of the extravagant and unwholesome ideas that brought interruptions to progress in former years of depression and panic. It is high time for business and financial pilots to get a clearer grasp of credit currents and to become better qualified to steer the ship of commerce through the rocks and shoals. Business men can well afford to take inventory of the events of the past few years so that from the lessons of experience may come a realization of the unbreakable connection between credit and commercial prosperity or depression.

## What Credit Is

The definitions of credit given by many of the economists define its purposes and utilities but not credit itself. Mr. Clay defines it as a means for financing production in anticipation of future demands.[1] Other definitions could be cited but most of them present merely purposes and utilities rather than an exact definition of what credit really is. Speaking simply, credit is the modern medium of exchange.

From the beginning of men's association with one another credit was used in some form or manner but not until after the Industrial Revolution did it become a commercialized system and play its full part in the development of modern commerce.

The original and elementary method of exchange termed "barter," and that medium of exchange called "money" were not sufficiently adaptable and could not influence or keep pace with a large and expanding commerce. Largely because of its flexibility, because it could contract and expand according to the requirements of commerce, credit proved itself to be the medium that would build up the internal and international commerce of the trading nations of the world. Credit is, therefore, the atmosphere of modern business. Without credit, business would wither and society resolve itself into conditions of centuries ago.

## Credit Arises Out of Commercial Transactions

The simple definition of credit given above will help anyone to understand one of its primary and fundamental laws. *Credit is not of itself a value but is representative of value.* Credit cannot be manufactured out of thin air. Banks are often spoken of as manufactories of credit. This is a misconception, for credit arises from an underlying value and may be granted only as values are created. When the underlying value becomes too thin for the credit superstructure or is removed entirely, a dangerous situation is created and inflation arises that will result in an expensive liquidation if it is not handled and controlled with consummate skill. As commodities supporting credit are transferred through the various processes of production and distribution, from raw materials to consumer, there should be an extinguishment of credit with each transferral and a complete liquidation of the various credits that have attended the transferral processes when the commodity is finally consumed.

Analyzing carefully the statistics cited above for the years 1837 and

[1] *Economics for the General Reader.* It is not unusual for economists to define credit substantially as follows: Credit is a promise to pay, usually to pay money. [*Ed.*]

1857 as they relate to the capital, circulation and loans of the state banks operating during these years, we can clearly see that the primary law of "underlying value" was completely neglected and that the over-extended condition in these periods caused violent contractions that were necessary to bring the sum of existing credits within proper and safe boundaries. If such contractions are accomplished without disorders then a disturbance merely will have occurred, though it may bring serious costs to the business and banking interests. But if the contraction becomes violent, a panic ensues with all of the disorders attendant upon this aberration of the human mind.

### CREDIT IS NOT CAPITAL

A second very important and fundamental law of credit is that *credit is not capital*. This is true whatever definition of capital may be used. Attempts to make credit do the work of capital are violations of this law and will exact always the penalties that attend the intentional or ignorant transgression of economic laws.

The present depression has been occasioned chiefly by a widespread and senseless attempt to make credit do the work of capital. Credit has a definite beginning and ending. Credit must liquidate. Wherever possible credit should be in a self-liquidating form. Instruments, therefore, assigning a definite date for the extinguishment of credit are more scientific and useful than ledger charges on which our principal commodity business is transacted. The past three years have witnessed a number of instances in the credit field where this law was directly violated, and, strange to say, these offenses were committed largely by men of affairs, looked to as leaders in commerce and finance. With our underlying wealth, a strict conformity



to the fundamental laws of credit would have saved much of the present depression and enabled us at least to have kept our feet on the ground. We should have been better informed and acted with greater wisdom and moderation.

An increase of distribution through an increase of prices and not an increase of units is a danger mark always and points out the arrival of the hour when retrenchment and not expansion should set in. All over the land there were flagrant instances of liquid credit converted into fixed assets and much too frequently these mistakes happened with the full knowledge and assistance of bankers. A business enterprise must always have a sufficient sum of liquid capital in the form of assets that may be readily converted for immediate or pressing needs. To provide for increased distribution and speculative buying, large portions of this liquid capital were converted into fixed assets, and furthermore, large portions of the available commercial credit within the powers of the banks to grant for emergency purposes were mopped up by the process and used for the extension of plants and for commodity commitments that have since proved unlucrative and unable to earn even simple interest on the investments. No natural law in the credit world must be more closely observed than this one, that credit is not capital, and that any attempt to make credit do the work of capital is an unpardonable offense which will exact its toll and produce nothing but disappointments and losses.

### CREDIT AND COÖPERATION

Coöperation is another fundamental law of credit development. Commodities may be produced and offered in competition but credit defies this commercial process and will strongly resent anything but coöperative treatment.

Individual action was long the controlling note of our national commerce. Not until 1896 did the coöperative vision burst upon our people. In a quarter of a century the American people have amassed treble the wealth and many times the commercial powers that were built up in the previous century. Perfect faith must exist in the relations of creditors to one another and in the relations of creditors to debtors. Any underhand motive—the desire to save oneself at the expense of others—is a hindrance to credit development and will prove always an expensive and an unwise practice. Coöperation is a divine principle of human action and is wonderfully exemplified in the credit world. Subordinating one's ideas to the ideas of the community is a principle of great promise. In the handling of credit the unreserved interchange of experiences and the combination of action will save much waste and prove of substantial advantage to the nation's commercial progress.

Credit has its material and moral elements. The seller of commodities and the lender of money will ask himself consciously, or unconsciously, these two questions of the credit risk: "Is the buyer or borrower able to pay, and is he willing to pay?" A favorable response to these questions establishes confidence, and confidence is necessary for the extension of credit. A negative reply withdraws confidence. A partial or incomplete response to these questions creates serious problems for the credit grantor.

### The Three C's of Credit

A measuring rod has long been designed for the credit risk. It is termed the three C's of credit: Character, Capacity and Capital.[2] When the risk measures up to this rod in every detail, it is rated a perfect risk. This complete measurement, however, happens infrequently in the granting of credit and very much rests on the skill of the credit grantor to determine how nearly the risk complies with, or how far short it falls of this standard of measurement.

The American temperament runs easily to speculation, so there is too frequently the neglect of standards and the taking of mere gamblers' chances in the granting of credit. The annual bad debt waste and the annual sum of frozen credits—clogging as they do the free flow of this ally to our large commerce—drive home with great power and conviction the fact that credit is indeed the least understood of all the elements entering into commerce and that the defect must be corrected if we are to make proper uses of our resources and hold our deserved position in world affairs.

Standards of credit granting have always existed and should have been understood and conformed to in our commerce. A halting of commercial progress will prove a great blessing if it is the occasion for the study of underlying causes and principles of credit,—and if a knowledge of the truths about credit is woven into future commercial practices. It is no reflection on the nation's future and powers to urge that more time be given to the study of fundamentals and that the transaction of business be based not so much on mere chance as on sound and righteous credit standards.

[2] In the case of commercial banking a fourth "C," collateral, is usually included. [Ed.]

# Taxation That Will Not Impair Business

By CLYDE L. KING

Wharton School of Finance and Commerce, University of Pennsylvania

PRINCIPLES as to what constitutes fair and equitable taxation are derived, not from theory, but from the traditions, the customs and the standard of justice of a people. American experience has worked out the following principles as to taxation:

1. *Taxes are levied on the basis of ability to pay.* The time was when taxes were shifted from those in ruling power who were able to pay to those without ruling power who were least able to pay. American practice, however, has accepted in full the principle of ability to pay as a test for fair taxes.

2. *The tax collected from the consumer or producer should go to the government.* The exception to this as a rule is the protective tariff. The protective tariff, however, is not so much a tax as a policy, like the tax on oleomargarine. The protective tariff is levied to gain ends other than revenue primarily.

3. *The cost of collection should be as low as is consistent with equity and fairness to different classes of producers and property owners.* Low cost is not the sole test. The tax with the lowest cost of collection is the income tax. To carry the principle of low cost to an extreme would mean primarily to have no taxes other than the income tax. The punitive taxes and corrective or remedial taxes are for an end other than revenue only.

4. *The tax should be equitable, as between country and city, as between different classes of property owners, and as between different sources of income.*

5. *There should be a minimum of duplication in the work and costs of tax collecting agencies on the one hand, and the sources of taxes on the other hand.*

With these principles all will agree. Few will agree in their application. They are the principles, however, that will be kept in mind in the discussion of specific taxes in this article.

## THE COST OF NATIONAL GOVERNMENT

In Table I is shown the recapitulation of appropriations for the fiscal years 1920–21 and 1921–22, as given by Senator Warren in the Congressional Record of July 18, 1921.

## CAN NATIONAL EXPENDITURES BE REDUCED?

An examination of the appropriations enumerated in this table will show that the outstanding expenditures of the national government are for wars, past, present and future. At the height of our war expenditures, $9.30 out of every $10 paid by the taxpayer went for war purposes. At the present time, about $8.75 out of every $10 of taxes is going for wars, past, present and future. The tax now paid into the national treasury by the users of tobacco would just about support the legislative, executive and judicial departments of the national government. Roughly speaking, the receipts from amusement and luxury taxes would about support all the other normal activities of the national government. The income tax, the excess profits tax, the corporation tax and the tariff all go for war purposes.

This points the way through which the taxpayer can get relief if he desires it. The extent to which he desires relief will depend on his policy of national protection. Practically the entire increase of the present budget over the 1913 budget is due to the war. Our commitment for interest on the

## TABLE I

### RECAPITULATION OF APPROPRIATIONS, 1921–22

Sixty-sixth Congress, Third Session, and Sixty-seventh Congress, First Session

| *Title of acts* | *Total* |
|---|---|
| REGULAR ACTS | |
| Agriculture | $36,404,259.00 |
| Army | 328,013,529.80 |
| Diplomatic and Consular | 9,326,550.79 |
| District of Columbia [1] | 19,512,412.99 |
| Fortifications | 8,038,017.00 |
| Indian | 9,761,554.67 |
| Legislative, etc. | 110,348,018.75 |
| Navy | 410,673,289.23 |
| Pension | 265,500,000.00 |
| Post Office [2] | 574,057,552.00 |
| River and harbor | 15,250,000.00 |
| Sundry civil | 384,196,480.41 |
| Total, regular acts | 2,171,081,664.64 |
| DEFICIENCY ACTS | |
| First deficiency, fiscal year 1921 | 275,256,508.87 |
| Second deficiency, fiscal year 1921 | 106,755,657.06 |
| Urgent deficiency, expenses of first session, Sixty-seventh Congress | 409,065.44 |
| Total, deficiency acts | 382,421,231.37 |
| MISCELLANEOUS ACTS [3] | |
| Construction of hospitals, war-risk insurance patients | 18,600,000.00 |
| Valuation of property of carriers, Interstate Commerce Commission, fiscal year 1921 | 1,000,000.00 |
| Claims of officers and enlisted men of the Army for loss of property lost in the military service | 300,000.00 |
| Allotment of lands within the Fort Belknap Indian Reservation, Mont. | 270,000.00 |
| Budget and accounting act | 225,000.00 |
| Sundry miscellaneous acts | 107,952.58 |
| Total, miscellaneous acts [3] | 20,502,952.58 |
| PERMANENTS AND INDEFINITES | |
| Interest on the public debt | 922,650,000.00 |
| Sinking fund | 265,754,864.87 |
| Customs Service, repayments, etc. | 27,000,000.00 |
| Philippine and Porto Rican funds | 4,000,000.00 |
| National bank examiners, salaries and expenses | 1,700,000.00 |
| Federal Board for Vocational Education | 5,438,000.00 |
| Canals and river and harbor work | 7,244,600.00 |
| Pay of the Army, deposit fund | 2,000,000.00 |
| Special and trust funds, Navy Department | 13,040,000.00 |
| Civil service retirement and disability fund | 5,097,000.00 |

[1] The amounts for the District of Columbia, after deducting sums for the water service (payable from the water revenues) and sums for playgrounds, street extensions, minimum wage board, and community forums of public schools (payable wholly from District revenues), are payable 60 per cent from the revenues of the District of Columbia and 40 per cent from the Treasury of the United States.

[2] The expenses of the Postal Service are payable from the postal revenues to the extent they are sufficient therefor and the remainder is paid out of the Treasury.

[3] Miscellaneous acts for the Sixty-seventh Congress, first session, include these approved prior to July 1, 1921.

| | |
|---|---|
| Agricultural and mechanical colleges | $2,500,000.00 |
| Payments to States from receipts under oil-leasing act | 3,750,000.00 |
| Indian funds and interest on same | 23,300,000.00 |
| Meat inspection, Bureau of Animal Industry | 3,000,000.00 |
| Coöperative agricultural extension work | 4,080,000.00 |
| Construction of roads and trails, national forests | 1,000,000.00 |
| Payments from national forest funds and coöperative work, Forest Service | 3,570,000.00 |
| Increased compensation to certain Government employees ($240 bonus)[1] | 35,000,000.00 |
| Miscellaneous | 5,651,896.00 |
| Total, permanents and indefinites | 1,335,776,360.87 |
| Grand total | $3,909,782,209.46 |

RECAPITULATION OF APPROPRIATIONS, 1920–21

Sixty-sixth Congress, Second Session

| *Title of appropriation acts* | *Total* |
|---|---|
| REGULAR ACTS | |
| Agriculture | $31,712,784.00 |
| Army | 392,558,365.00 |
| Diplomatic and Consular | 9,218,537.91 |
| District of Columbia[2] | 20,639,414.87 |
| Fortifications | 19,133,442.00 |
| Indian | 10,020,555.27 |
| Legislative, etc. | 104,749,326.11 |
| Military Academy | 2,142,212.70 |
| Naval | 438,784,574.00 |
| Pension | 279,150,000.00 |
| Post Office[3] | 462,575,190.00 |
| River and Harbor | 12,400,000.00 |
| Sundry civil | 437,106,806.92 |
| Total, regular acts | 2,220,191,208.78 |
| DEFICIENCY ACTS | |
| Urgent, fiscal year 1920 | 33,110,000.00 |
| Second, fiscal year 1920 | 88,461,889.63 |
| Railroad and urgent, fiscal year 1920 | 309,717,285.79 |
| Third, fiscal year 1920 | 55,603,208.03 |
| Total, deficiency acts | 486,892,383.45 |
| MISCELLANEOUS ACTS | |
| Metropolitan and park police, District of Columbia | 339,474.05 |
| International Communication Conference | 75,000.00 |
| Retirement of school-teachers, District of Columbia | 30,000.00 |
| Fire department, District of Columbia | 279,500.00 |
| Transportation act, 1920[4] | 500,050,000.00 |

[1] This sum is approximated.

[2] The amounts for the District of Columbia, after deducting sums for the water service (payable from the water revenues), and sums for playgrounds, street extensions, and minimum wage board (payable wholly from the District revenues), are payable 60 per cent from the revenues of the District of Columbia and 40 per cent from the Treasury of the United States.

[3] The expenses of the Postal Service are payable from the postal revenues to the extent they are sufficient therefor and the remainder is paid out of the Treasury.

[4] This sum is made up as follows: $300,000,000 for new loans to carriers, $200,000,000 on account of Federal control of railroads, and $50,000 for expenses of the Railway Labor Board. No amount is included to cover sums estimated to carry into effect the six months' guaranty to carriers or to pay the losses of "short-line" railroads.

RECAPITULATION OF APPROPRIATIONS, 1920–21—Continued

Sixty-sixth Congress, Second Session

| *Title of appropriation acts* | *Total* |
|---|---|
| MISCELLANEOUS ACTS—continued | |
| Relief of certain Army officers | $10,000.00 |
| Vocational rehabilitation of persons disabled in industry | 871,000.00 |
| Federal water-power act | 125,000.00 |
| Relief of New Jersey Shipbuilding & Dredging Co. | 118,309.16 |
| Miscellaneous private relief acts | 55,782.62 |
| Increased compensation to certain Government employees[1] | 35,000,000.00 |
| Increased compensation, Postal Service, under reclassification act[1] | 41,855,510.00 |
| Total, miscellaneous acts | 578,809,575.83 |
| PERMANENTS AND INDEFINITES | |
| Interest on the public debt[1] | 1,017,500,000.00 |
| Sinking fund[1] | 287,500,000.00 |
| Loans, expenses of[1] | 12,456,000.00 |
| Customs Service, repayments, etc.[1] | 20,200,000.00 |
| Philippine and Porto Rican funds | 4,000,000.00 |
| National bank examiners, salaries and expenses | 1,000,000.00 |
| Federal Board for Vocational Education | 3,836,000.00 |
| Canals and river and harbor work | 4,544,000.00 |
| Pay of the Army, deposit fund | 2,000,000.00 |
| Special and trust funds, Navy Department | 4,250,000.00 |
| Agricultural and mechanical colleges | 2,500,000.00 |
| Indian funds[1] | 23,775,000.00 |
| Meat inspection, Bureau of Animal Industry | 3,000,000.00 |
| Road construction[2] | 104,000,000.00 |
| Miscellaneous[1] | 12,846,752.29 |
| Total, permanents and indefinites | 1,503,407,752.29 |
| Grand total[2] | $4,789,300,920.35 |

[1] This sum is approximated.

[2] This sum includes $78,000,000 appropriated for the construction of roads for the fiscal year 1921 by the Post Office appropriation act approved Feb. 28, 1919.

present public debt alone ($923,000,000 in 1920–21) is about double the annual cost of our national government before the war.

### INTEREST ON ALLIED DEBTS

The tax burden on the American taxpayer could be reduced about half a billion dollars a year should we require our allies to pay the interest on the ten billion dollars advanced by our national government to them for war purposes. There is a general concensus of opinion that we could not collect this interest now if we would. It is equally obvious that we would not now collect it if we could. This interest can be paid only in goods, and certainly at present price levels, goods in addition to those required for exchange of our surplus products are not desired from European countries. Such a flow of goods could only depress prices further. Taxpayers, therefore, can look for little immediate relief from this direction.

### EXEMPTIONS FROM TAXATION

The national government during the war period adopted two fallacious policies that are largely the cause of our present industrial ills. The first of

these was to put the interest rate on public bonds as low as it was. We have paid a reasonable interest rate over and over in the form of higher prices and hence in larger public debts consequent upon inflation. The second error was to exempt certain national bonds from taxation. Professor Edwin R. Seligman has estimated that local, state and national governments are now losing about $600,000,000 a year through the exemption from taxation of our $24,000,000,000 of federal debt, and $8,000,000,000 to $10,000,000,000 of state and local securities. Obviously the Federal Government can now do little to redeem this error as to past issues. Business men, however, should make certain that the error is not repeated. In view of the fact that under our constitution the states and the national government are each sovereign in their own fields it would be impossible, by national law, to prohibit the states from exempting state and municipal securities from state and local taxation. And the importance of preserving the autonomy of our states in their own fields would make inadvisable a national constitutional amendment attaining the same ends. The taxpayer must see to it hereafter that public securities are not exempt from taxes. He can now get little consolation from that source in the way of reducing present tax levies.

## READJUSTMENT OF THE BURDENS OF TAXATION

Assuming no substantial change in our war expenditures and assuming a reasonable funding of our short term national debts, we now need about four billion dollars a year for the national government. The present taxes will yield just about this sum in 1922. There is, therefore, no special need for additional sources of revenue. The only issue now is as to whether there should be better readjustment of the existing burdens of taxation.

## EXCESS PROFITS TAX

Many thousands of dollars have been spent in propaganda to the effect that the excess profits tax increased the cost of living. The argument was that the corporations subject to the tax added to their prices not only the tax, but several other imaginary costs along with the tax. Recent events have shown the fallacy of this argument even to its most obdurate friends. Whatever may happen in a seller's market, it is clear from recent events that the excess profits tax does not prevent a fall in prices. In a seller's market some may accept the glib theory that price is a question of mathematics; that the tax is merely added in with all its incidental costs and risks as one of the elements in price and hence the consumer bears the burden no matter what the form of the tax. This argument has proved groundless, not only as to the excess profits tax, but as to the income surtaxes as well. When the marginal producer is exempted, as he is in both the income and excess profit taxes, and when a price is fixed under fair competition, there can be no adding such taxes to the price. The excess profits tax is now more an exemption tax than a tax levy. Many of the former opponents of the tax may shortly find themselves in the position of favoring it in preference to the alternatives.

The concensus of opinion, however, now is that the excess profits tax is to go, not because it adds to the cost of living, but because it is difficult to ascertain and because it is unequitable as between businesses whose invested capitals were acquired, let us say, before the war and during the war.

There is unanimity of opinion, also, that the higher surtaxes should be re-

pealed down to the limit of 40 per cent. This is rendered advisable particularly in view of the large field of tax-exempt securities into which such income groups may put their money.

What taxes shall take the place of the excess profits tax, which under the present industrial conditions is ceasing to pay substantial sums into the Treasury anyhow, and what taxes shall take the place of the receipts from the higher brackets of surtaxes? There are really two alternatives for serious consideration. One is the sales tax, and the other is a graduated tax on the income of corporations.

Certainly under present conditions of widespread unemployment and of a reduced purchasing power among our farmers below that of many decades, no statesman will seriously champion an extension of consumption taxes.

A graduated corporation tax is preferred to the sales tax by the author of this article for the following reasons: 1. It is based on ability to pay. 2. It will give an equitable taxation as between individuals and partnership on the one hand, and corporations on the other. And this, American practice has insisted upon; indeed, we have in too much of our state legislation put heavier tax burdens on corporations.

## Objections to Sales Tax

The sales tax, in any form proposed, whether a turn-over tax or a tax on retail sales only, violates the cardinal principle of ability to pay. The tax would be paid by the bankrupt as well as by the individual or corporation with a net income. Such a tax would retard the moving of stocks put in at higher prices, and hence is peculiarly unfitted to the present industrial situation. It would be unjust as between competitors in the same industry depending on the degree of integration in the various industries. It would be particularly odious and heavy in those industries where the turnover would be rapid in proportion to capital invested. More important still, it is an indirect tax, to a certain extent, and if adopted would abide with us to an extent that a direct tax would not. The direct tax has the distinct advantage of making those who pay it watchful of governmental expenditures and governmental efficiency. We have had already expensive experiments with taxes that were not felt because not paid directly. Business men will find that the sales tax will not be shifted in all instances as so many are now prone to believe. Consumption taxes on necessities have been before the American people in a number of ways, and have always been settled adversely. French and English experience is replete with attempts to collect a tax on everything, and such general taxes have invariably been abandoned for the income tax, the inheritance tax and other means of getting directly at the source of wealth at little cost.

## The Tariff

Before we can have an exchange situation that will allow us to find an export market for our surplus goods, we must have a flow of goods into this country. Moreover, if we are to collect in due time the interest on private debts and on public debts due from other countries, we must expect a flow of goods from those countries to pay this interest. To put on a general protective tariff that will exclude these goods is as short-sighted as the old English policy of putting the debtor in prison. Certainly we have passed beyond this point in our understanding of national economics. Our entire situation has changed. Instead of being a debtor nation, we are now the world's great creditor nation, and our tariff policy must be shaped accordingly. Tariff

policies we must have in order to meet the tariff policies of other countries, if for no other reason. And for national policies we may well adopt high protective tariffs on selected commodities. But in general the tariff must now be levied more with the thought of revenue than with the thought of prohibition of imports in order to raise prices on domestic goods.

### NUISANCE TAXES

One sound principle of taxation is that the tax collected from the consumer should go on to the government. Those who buy fountain drinks are all aware that the tax is always collected. It is equally clear that not nearly all of this tax gets on to Uncle Sam.

The excise tax on certain commodities has been an American policy and will no doubt be continued. These excise taxes, however, should be levied on articles and under conditions so that the tax paid by the consumer really gets to the government. This can be done with the tax on tobacco and with many of the taxes on luxuries. Reasonable taxes on habits do not stop production.

There should be a readjustment of our excise taxes with these principles in view, and also with the principle of ability to pay in mind. This is particularly important to business men under present conditions of widespread unemployment.

### THE ESTATE TAX

Our estate tax is new to our national experience. The tax is not as heavy as that levied in other countries, and offers an opportunity for expansion, if expansion be needed under the readjustments discussed above, to meet the national requirement of four billions a year. The estate tax is not a burden on production, nor at reasonable rates will it stifle incentive. It is based on ability to pay and the cost of collection is low.

### SUBSIDIES

The preceding arguments assume that we will not heavily subsidize any special groups or industries in the country, whether they be former soldiers, or transportation companies or private owners of merchant ships. The taxpayer has found out that the prevention of burdens is the best way to reduce taxes. Groups of all kinds will want subsidies directly or indirectly and all groups will accept the subsidies if they can get them. Eternal vigilance is the taxpayer's only protection in this matter. Those who want subsidies organize to get them. The taxpayers will prevent their getting them only with equally good or better organization.

### STATE AND LOCAL TAXES

The total and per capita expenditures of all the states are given in Table II. An examination of this table will show that out of the $8.60 spent per capita for the governmental cost of all the states in 1918, fifty cents per capita went to the general branches of state governments. We probably will not find that this particular expense can be measurably lowered. Neither will the thirty-two cents per capita for protection to personal property be materially lowered. When measured in service, certainly, no one will begrudge the twelve cents per capita spent on conservation of health and sanitation. Few, too, will begrudge the services rendered by the $1.20 spent in the development of our agricultural and other national resources. Our state expenditures of thirty-eight cents per capita for highways will no doubt be increased rather than decreased, in order to make way for

TABLE II

GOVERNMENTAL COST PAYMENTS BY ALL STATES—1918

| | 1918 | Per Capita | Dist. Gen. Dept. Per Cent | Total Per Cent |
|---|---|---|---|---|
| I. *General Departments* | | | | |
| A. General Government | 51,395,182 | 0.50 | 10.8 | |
| B. Protection to Person and Property | | | | |
| 1. Militia—Armories | 9,192,685 | 0.09 | 1.9 | |
| 2. Regulation | 17,524,592 | 0.17 | 3.7 | |
| 3. All Other | 6,501,658 | 0.06 | 1.4 | |
| C. Conservation of Health and Sanitation | | | | |
| 1. Prevention and Treatment of Communicable Disease | 7,237,723 | 0.07 | 1.5 | |
| 2. All Other | 5,011,610 | 0.05 | 1.1 | |
| D. Development and Conservation of Natural Resources | | | | |
| 1. Agriculture | 17,061,201 | 1.16 | 3.6 | |
| 2. All Other | 4,572,771 | 0.04 | 1.0 | |
| E. Highways | 38,828,799 | 0.38 | 8.2 | |
| F. Charities, Hospitals and Corrections | 118,084,025 | 1.14 | 2.49 | |
| G. Education | | | | |
| 1. Schools | 168,183,641 | 1.59 | 34.4 | |
| 2. Libraries | 1,268,602 | 0.01 | .3 | |
| H. Recreation | 1,248,094 | 0.01 | .3 | |
| I. General | 32,851,140 | 0.32 | 6.9 | |
| Total General Departments | 473,961,723 | 4.58 | 100.0 | 83.7 |
| II. *Interest* | | | | |
| A. On Funded Debt | 19,840,936 | | | |
| B. " Floating Debt | 2,411,497 | | | |
| C. " Other Debt | 826,414 | | | 4.3 |
| | 23,078,847 | | | |
| III. *Expenses Pub. Ser. Enter.* | 2,300,403 | .02 | | .40 |
| IV. *Outlays* | 66,144,964 | .63 | | 11.6 |
| Total | 565,485,937 | 5.43 | | 100.0 |

NON-GOVERNMENTAL COST PAYMENTS BY STATES—1918

| | | | |
|---|---|---|---|
| I. Payments for Purchase of Invest. | 84,896,490 | .80 | 25.0 |
| II. Payments which decreased Indebtedness | 116,126,235 | 1.12 | 35.0 |
| III. All Other | 129,160,620 | 1.25 | 40.0 |
| | 330,183,345 | 3.17 | 100.0 |

RECAPITULATION

| | | | |
|---|---|---|---|
| Governmental Cost | 565,485,937 | 5.43 | 63.0 |
| Non-Governmental Cost | 330,183,345 | 3.17 | 37.0 |
| Total | $895,669,282 | 8.60 | 100.0 |

increasing motor traffic and in order to open up the market from farm to consumer. The $1.14 per capita which we spend for hospitals, charities and correction is about the cheapest insurance we carry. And no one will want to reduce the $1.61 per capita spent for schools, libraries and recreation. Certainly we do not want to lower the *service* received for these expenditures. We do, if possible, want those services at less cost.

Table III shows the per cent of distribution of the general departmental expenses of all cities of 30,000 or over from 1903 to 1918. This table gives the per cents, and not the totals, but the uniformity of the per cents

TABLE III

COMPARATIVE SUMMARY OF PER CENT DISTRIBUTION OF GENERAL DEPARTMENTAL EXPENSES OF ALL CITIES OVER 30,000 FOR SPECIFIED YEARS 1903–1918

| Object of Payment | 1918 | 1917 | 1915 | 1913 | 1911 | 1909 | 1907 | 1905 | 1903 |
|---|---|---|---|---|---|---|---|---|---|
| General Government | 10.7 | 11.5 | 11.4 | 11.6 | 11.8 | 12.2 | 11.7 | 10.0 | 11.1 |
| Police Department | 10.9 | 11.0 | 11.3 | 11.6 | 12.0 | 12.6 | 12.4 | 13.3 | 13.6 |
| Fire Department | 8.3 | 8.5 | 8.8 | 9.1 | 9.5 | 9.8 | 9.6 | 10.1 | 9.8 |
| All other Protection to Person and Property | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.9 | 1.9 |
| Conservation of Health | 2.6 | 2.5 | 2.2 | 2.0 | 1.9 | 1.9 | 1.8 | 1.6 | 1.7 |
| Sanitation or promotion of Cleanliness | 7.8 | 7.6 | 7.9 | 8.1 | 8.2 | 8.1 | 8.1 | 8.1 | 7.5 |
| Highways | 10.1 | 10.4 | 11.2 | 11.2 | 11.6 | 10.6 | 12.0 | 12.0 | 12.4 |
| Charities, Hospitals, and Corrections | 7.4 | 7.2 | 6.8 | 6.4 | 6.6 | 6.9 | 6.6 | 6.3 | 6.5 |
| Schools | 31.4 | 31.1 | 30.2 | 28.9 | 28.6 | 28.2 | 27.7 | 28.7 | 29.3 |
| Libraries | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.5 | 1.3 | 1.4 | 1.5 |
| Recreations | 3.5 | 3.5 | 3.7 | 3.7 | 3.7 | 3.5 | 3.2 | 3.4 | 2.7 |
| Pensions and Gratuities | 2.2 | 2.2 | 1.9 | 1.7 | 1.6 | 1.5 | 1.4 | 1.2 | 1.1 |
| All Other | 1.9 | 1.3 | 1.4 | 2.5 | 1.4 | 1.3 | 2.2 | 2.0 | 1.0 |

of the total appropriations will indicate that our policy in these expenditures has been consistently worked out over a period of years, and hence offers little possibility for downward revision, so far as service rendered is concerned.

When measured in terms of services, we shall not expect less from our city and state governments.

Can we get these services at lower costs? We can in certain ways. Some savings can be made in lost motion by further centralizing bureau organization in the national government. But these savings cannot offset increased costs over a pre-war base. We will see what Mr. Dawes can do.

The dark continent of American administration is in the organization of our state governments. In most of our states we have not one governor but several score of them. Much real progress has been made in the last twenty years in putting city administration on a well organized basis.

Constructive public expenditures that return services for money received do not impair business.

# Changing the Fundamental Structure of the Federal Reserve System

By HOMER JOSEPH DODGE
Editor, Federal Trade Information Service

THE delight which statesmen, politicians and economists find in experimenting with the money systems of the world is the root of a large proportion of business evils. Whether it is because the use of money plays so large a part in American life, or whatever the cause, the monetary system of the United States has been the victim of almost ceaseless experimentation. This tinkering has not come to an end with the erection of the Federal

Reserve System, although that is the most comprehensive and definite banking system the nation ever has enjoyed.

Since the approval of the Federal Reserve Act on December 23, 1913, many amendments have been enacted, but for the most part they have been like the amendments to the American Constitution, supplemental and interpretive rather than contradictory and subversive of the original provisions. That this has been the case has not been by unanimous consent. From the very beginnings of the System, efforts have been made to alter in fundamental particulars the theory and method of operation of the Federal Reserve Banks.

### THE FEDERAL RESERVE ACT IS NOT AND CANNOT BE FOOL PROOF

The history of monetary and banking legislation in the United States has been a political rather than a scientific chronicle. The tenets and aspirations of parties and politicians have been wrapped up in most of the banking law. The advent of the Federal Reserve System was heralded as a turning point in this policy. Here, said its proponents, was a purely scientific system from which all political color was banished and forever would be. Here was a banking system set apart from the fevers of partisanship which would operate automatically in response to the needs of commerce and on a purely impersonal basis.

Two distinct revelations may be experienced from an examination of the history of the System to date: first, that the one great weakness of the system is its susceptibility to political interference and control whenever the officials in charge of its operation are amenable to ulterior influence and, second, the amazement and dismay of groups of the people at finding that, in the absence of influenced officials, the System proceeds scientifically and impartially.

The discovery by students and statesmen of these two qualities possessed by the American banking system has resulted in the making of determined efforts to amend the organic act for the purpose, on the one hand, of removing all susceptibility to the human element, and, on the other, for the purpose of rendering the System a convenience.

So long as men are required to conduct the banking system the susceptibility to political influence never can be removed, although it may be diminished, and this constitutes the abiding weak spot of the Federal Reserve System. So long as a sufficient number of interested bankers, business men and citizens are vigilant, amendment of the Federal Reserve Act for the purpose of prostituting its facilities to favored groups can be forestalled.

Controversy over the operation of the System and efforts to alter its manner of doing a banking business have been especially numerous during the last year. This activity has been prompted by the effect upon groups of the population of economic forces springing from the turn in the price scale.

The Federal Reserve Act was heralded by its framers and supporters as a measure for the regulation of credit. Because of the extraordinary sequence of events following immediately upon the organization of the System—indeed anticipating the opening of the Federal Reserve Banks—the regulatory provisions of the act had no opportunity to prove their efficacy. The European War burst upon the world with all its concomitant overturning of business. All the elements of commerce and credit which the act was designed to regulate had but one trend.

The entire business of the nation moved steadily along toward an unprecedented expansion. With the price scale rising from day to day, business practically was insured against failure. There never had been any doubt about the ability of the Federal Reserve System to accommodate itself to expansion; the question was whether it could contract.

### CREDIT CONTRACTION—THE FIRST REAL TEST FOR THE FEDERAL RESERVE SYSTEM

No opportunity to test this came until the Armistice and then but a limited one. In the brief recession of business following the Armistice, the first test of the ease with which the emergency currency of the System could contract was experienced. Conspicuous success attended the event. For nearly three months the volume of Federal Reserve notes outstanding declined steadily and without friction. The ability of the new currency to contract in harmony with the orderly, easy and natural instance of business requirements was proved.

The spring of 1919 saw a resumption, greater than during the war, of the credit expansion. The Federal Reserve Board, out of deference to the problems of the Treasury in floating public loans, refrained from applying the untried machinery of the System for the curtailment of credit. Discount rates remained abnormally low in order that bond rates should not be bid up.

This could not last, and in December of 1919 the Federal Reserve Board abandoned the shadow of the Treasury and proceeded to put to the test the credit regulating powers of the act. The System had been in operation for nearly six years without this—its most important function—being demonstrated. Now came a trial of whether the Federal Reserve System was, in fact, an efficient machine for the regulation of credit or merely a facility for issuing currency.

By approving successive increases in the discount rate at Federal Reserve Banks, the Federal Reserve Board brought to a halt the credit expansion, hastened the inevitable decline of commodity prices, put a stop to much profiteering and started the readjustment toward pre-war normal so much desired by all save those who had high-inventoried goods to sell.

### WHAT THE SYSTEM HAS PROVED IT CAN DO

The second milestone in the testing of the Act had been passed. It now had proved it could contract the currency and could curtail credit expansion. During these years it had further proved the mercurial properties of its reserves, interbank rediscounting having been carried on with amazing success, placing the banking resources of the country at strategic points with the swiftness and precision of pieces on a chess board. It had proved the possibility—long doubted—of solidifying the banking community into a coherent and dirigible agency which could be directed in such a manner as to bring the greatest amount of efficiency to bear at a desired point. It had introduced and well advanced the bank check as a convenient medium of tender, free from vexatious and circumscribing exchange charges. It had perfected a nation-wide clearing system by which balances flowed from one end of the country to the other at the bidding of commercial pressure almost instantaneously.

Nor were these experimental years free from isolated opportunities of the System to prove its ability to forestall bank failures and arise to acute special emergencies.

### Fundamentals of the System Sound

In these first experimental years, the Federal Reserve Act was tried out in almost every conceivable way and found capable of withstanding the shocks of business. Its fundamentals were observed to be sound. Only here and there had it been necessary to amend the Act and in all these cases amendments merely were supplemental and complementary to basic provisions of the organic act.

The fundamental principles of the Federal Reserve System may be stated as follows:

Liquidity of security as collateral for notes on which Federal Reserve currency is based, involving restriction of banks forming the System to a commercial rather than an investment business;

Mutability of rates of discount at the discretion of the Federal Reserve Banks, with the approval of the Federal Reserve Board;

Purity of motives and efficiency of management on the part of the personnel;

A regional rather than a central plan of organization.

### Attacks on the Commercial Character of the System

The maintenance of the all-important fundamental principle of liquidity has given friends of the Federal Reserve Act more concern, probably, than any other task. During consideration of the bill in the committees of Congress and on the floors of House and Senate, the utmost courage and determination was required to keep it free from the trammels of provisions admitting non-liquid security to the Federal Reserve Banks. Final enactment of the measure, comparatively free of such embarrassments, by no means stopped the onslaughts. Almost unceasingly amendments have been offered and pressed, looking to the opening of the Federal Reserve Bank portfolios to a miscellaneous assortment of unliquid securities. For instance, spirited efforts have been made to declare eligible for rediscount at Federal Reserve Banks commercial paper secured by railroad stocks and bonds, industrial stocks and bonds, municipal and public utility bonds. These securities, no matter how gilt-edged, have consistently been regarded by the Federal Reserve Board and by the Banking and Currency Committees of Congress as investment securities, and, as such, wholly unsuited as collateral for commercial paper. Organized efforts have been made to tear down this opposition to the admission of such paper, but so far they have proved unavailing.

During the war the attack on the sanctity of the liquidity of Federal Reserve security was particularly energetic and, in the opinion of some observers, partially successful. The declaration of war, followed by the laying down of a government financing program of unprecedented proportions, produced a species of hysteria. It was discerned that the banking system would be called upon to stand the utmost strain, the normal investment capacity of the nation being insufficient, without the aid of bank credit, to meet the drafts certain to be drawn upon it. Over the protests of some of the framers of the Federal Reserve Act, an amendment was approved permitting the issuance of Federal Reserve notes against both gold alone, and gold and commercial paper. The Board acquiesced in this amendment, but it was regarded as a war emergency measure, and to it has been attributed a large portion of the excess credit expansion which has occurred.

Similarly, the obligations of the War

Finance Corporation were admitted as eligible security for commercial paper. This latter authorization was scarcely availed of, if at all, and, of course, was without permanent effect, that corporation being of rather ephemeral nature.

When the Federal Reserve Act was in process of enactment, no member of either Committee, or either house of Congress, entertained the remotest anticipation of such a volume of government obligations as the war evoked. It had been half a century since the American people had been surfeited with government bonds. Throughout the lifetime of nearly every legislator who assisted in the framing of the Federal Reserve Act, the government bond had been the apotheosis of acceptable security for any sort of transaction. It was the sacred cow of public and private finance. It was a matter of course that it should be classed as a primary acceptable security at Federal Reserve Banks.

But soon the official printing presses, at the beck of the yawning war chest, began turning out government bonds with appalling speed. The gilt-edged security, which but a few months before had been dealt in only behind glass and brass partitions and discussed in whispers, now was being hawked by peddlers on the streets. Recently I have been told by statesmen who had practically a controlling influence in the framing of the Federal Reserve Act that had they been aware of what a few years would bring forth they coldly would have denied to all government securities any place at all in the portfolios of Federal Reserve Banks—would have barred them completely as collateral for eligible commercial paper.

But during the fever of war, the opposite view was taken. Preferential rates were made at Federal Reserve Banks for paper secured by government obligations. Here was one of the departures from pure scientific banking which the System has had to fight from the beginning.

It will be noted that the Chairman of the Federal Reserve Board and the Secretary of the Treasury are the same man, under the law. It was no more than human that the man charged as Secretary of the Treasury with the duty of raising funds to prosecute the war at the cheapest obtainable rate would use his substantial influence to do all he could to make the bonds he was offering attractive to business men. To place them in a favored status as collateral security for commercial paper at a time when all business men were borrowing heavily to take advantage of boom opportunities was indeed an inducement to their purchase. Here was a cycle which preyed viciously on the liquidity of the Federal Reserve Banks. The Federal Reserve Bank rates—the rates which borrowers must pay—were kept low so that the bond rates could be kept low and save the Treasury money. The bonds were given preferential treatment as collateral security for commercial paper offered at these low interest rates. Everything favored the borrower. Inflation was the inevitable result.

In the last few months, the Federal Reserve Banks have set about a readjustment of this state of affairs and adverse discrimination, instead of preference, is being shown paper secured by government obligations. The differential on government-secured paper first came up to the straight commercial paper rate and then went above it, or rather, the commercial rate came down with no simultaneous reduction in the government-secured differential. Further, the practice of the Federal Reserve Banks in lending par on government bonds, despite the

depreciated market value, has been abandoned and governments now must stand the same market test, in the collateral drawer, with other securities.

And further, during the war the portfolios of the Federal Reserve Banks were thrown open to a miscellaneous assortment of acceptances, the liquidity of which might well be questioned. Acceptances, indeed, were found by a special investigation conducted in the winter of 1919–20 by the Federal Reserve Banks of Boston, New York and Philadelphia to be the instruments used in the financing of exports to Europe. Drawn for relatively short periods, they were being renewed over and over again and were settling down to the lethargic slumber of frozen credits, the European buyers against whom they had been drawn receding farther and farther from possibility of liquidation. Many of them might as well have been drawn on the Man in the Moon. Yet they had been accepted on the American seaboard and, under the law, rediscounted at Federal Reserve Banks.

### THE FARMERS' RAID ON THE RESERVE SYSTEM

The distress of the producers of farm products, incident to the world-wide recession in prices, has, in the last year, caused a new attack on the fundamental principle of liquidity of the System. The farmers have erected at Washington a lobby which is stronger than ever the organized labor lobby was. Crystallized through the activities of this lobby, much propaganda has gone out blaming the Federal Reserve Board for the decline of prices and for the ruination of the farmer. In the fall of 1920, earnest efforts were made by the farmers to induce the Federal Reserve Banks to distend credits to a compass which would permit the holding off the market of practically the whole harvest. When the Board declined to connive with the farmers in an attempt to forestall what was regarded as an inevitable economic development, they cried treason.

This was the point at which the members of Congress from agricultural states, who had assisted in the framing of the Act, experienced acute dismay, discovering that their creature was indeed functioning as they had boasted it would, without fear or favor, scientifically and bereft of partisan bias. Many affirmed that it was the intention of the framers of the Act to aid the farmers in such crises and an organized effort was made and still is being maintained to rewrite the Act into a breadline charter for needy husbandmen.

There are pending before the Banking and Currency Committees of both houses of Congress, bills proposing to define as eligible for rediscount at Federal Reserve Banks the paper of cotton factors, of wheat commission merchants and of others who would use the resources of the System for holding crops off the market for higher prices. Other measures, having this same background of rural relief, would admit such securities as irrigation and development bonds to the list of acceptable collateral. It is unlikely that the eastern influence in Congress will permit these attacks on the principal fundamental of the Federal Reserve System to succeed.

### THE OUTCRY AGAINST REGULATORY DISCOUNT RATES

The second fundamental of the system is given as the mutability of rates of discount at the discretion of the Federal Reserve Banks, with the Board's approval. It has been seen how the System utilized this element to control the credit expansion during the last eighteen months, and with

what conspicuous success. Through the pressure of rates, alterable at discretion, the System squeezed a billion dollars of speculative funds out of the stock market in less than a year, diverting it to productive uses in the agricultural and manufacturing regions. Turning upon another point, the System squeezed another tremendous sum out of the speculative branch of the commodity market, diverting the credit again to productive uses. Gamblers, hoarders, profiteers, promoters and all traders classed as not legitimate in times of stress, were in quick succession routed by means of this baton of power—the interest rate answerable at a nod to the occasions of the Federal Reserve System. With all the boards, commissions, committees and investigators which the government had employed throughout the war and post-Armistice period, not a point was gained in the effort to reduce the high cost of living until the Federal Reserve Bank rate was brought into play.

Now it is proposed by some of those who felt the chastening effect of the rate changes, that Congress delimit the rates to be charged. Operating wholly at the dictates of and, indeed, constituting a part of, the law of supply and demand, it is sought to strike at this fundamental by removing discretion as to its use and making it static.

Part of the agitation for this change has arisen from reports of large earnings by the Federal Reserve Banks, wrested, it has been declaimed, from the pockets of poor farmers. In the first place, earnings above six per cent are covered into the Treasury of the United States and become public funds; but of more importance, is the obvious fact that in times of brisk demand for accommodation, relaxing of collateral restrictions and lowering of interest rates would increase rather than diminish the total earnings of the Reserve Banks because of the vastly greater volume of business which would be thrust upon them. Furthermore, there is the important consideration that such a course probably would break the banks.

## The Difficulty of Keeping Politics Out of the System

The Federal Reserve Banks themselves, contrary to a popular notion, are not owned by the government. Not a cent of Treasury capital is in them. They are private institutions under government control, dedicated to public use and employed as federal fiscal agents. The Federal Reserve Board, however, is appointed by the President, the Senate concurring. This introduces the political element.

Here is an opening for the entrance of politics and the experience of the System has been that a constant fight has been necessary to keep the third great fundamental of the System, purity of motives and efficiency of management on the part of appointed officials, secure. The Board has been peculiarly fortunate so far in keeping aloof from politics, despite efforts on every hand to inject that element into banking control.

With the agitation for the relaxation of collateral restrictions and the fixation of interest rates, also has come a movement to give a political color to the Board. Bills are pending in Congress, supported by the agricultural interests, to effect this. They provide that the Secretary of Agriculture and the Secretary of Commerce—both necessarily political appointees—shall be ex officio members of the Federal Reserve Board.

The Board, as originally constituted, has two ex officio members, the Secretary of the Treasury and the Comptroller of the Currency. These are two too many, for the reasons that

both are political appointees and both sit on the Board in addition to performing other duties. It is the belief of the Board that its members from time to time should visit Federal Reserve Banks and keep in personal touch with the country generally, yet with the ex officio members too busily engaged to attend meetings of the Board frequently, the regular members must remain almost constantly at Washington to preserve a quorum.

### Importance of the Regional Structure

A fourth fundamental of the Federal Reserve System is the regional organization constituted by its twelve Federal Reserve Banks, which have numerous branches. Supporters of a single central bank always are prepared to urge this change when an opportunity presents. The experience of the System is that the regional principle is sound. The conclusion is reached from close study of the operation of the System since its inception, that a single bank could not stand. It will be recalled that President Wilson, in advocating the regional system, pointed out that distribution of the banks would "fructify the lean regions." It has had this effect and the western Federal Reserve Banks are making progress in bringing assistance to the vastly undercapitalized Western States by furnishing a convenient and ready channel for the introduction of eastern capital. But of equal importance is the consideration that the regional banks draw from the lean regions as well as others, a tangible support in return for the assistance given.

The Federal Reserve System is an empire whose constituent parts rally to the general defense when any arm is attacked. Did the United States have a central bank now, it is almost certain that enough enmity could be organized against what would appear as an ogreish concentrated money power to overturn it. But with the twelve banks scattered throughout the country, the element of local pride enters in and the realization of mutual benefit is felt. The Federal Reserve Bank is not a remote, alien and sinister influence in a distant and envied section of the nation. It stands just across the street. The New York or the Dallas Federal Reserve Bank may be attacked by some passing clamor, but the Banks at St. Louis and Cleveland are not going to permit the whole system to collapse because of the disturbance. Yet a single, central bank might very likely succumb.

This is being realized more and more, and it is not at all likely that this fundamental of the System will be changed.

### Attempts to Overload the System

Another manner in which the System is sought to be preyed upon is the burdening of the Federal Reserve System with extraneous duties. While these do not strike at the integrity of any single fundamental of the System, to carry their development too far would impair the entire structure through overloading. For instance, there is now pending legislation providing that the surplus earnings of the Federal Reserve Banks shall be placed in a special fund to be lent on cattle paper, on crops held in storage and for similar purposes of a financial rather than of a commercial nature. It also has been proposed that the Federal Reserve System create a foreign bank which shall have a species of monopoly of foreign exchange dealings. Other tasks have been proposed and urged for the Federal Reserve Banks which are indeed closely allied to banking, but which might, if permitted to develop unbridled, confuse and overload the System.

There is the unceasing effort to main-

tain by legislation the integrity and special privileges of State banks after they enter the System—a sort of marriage vow with a reservation. It would appear to be the part of wisdom to add as few restrictions and new duties as possible to a system which already is of towering proportions, to the end that it may function smoothly, unencumbered and unembarrassed.

### TWO NEEDED IMPROVEMENTS

The closest observers of the operation of the System have but few suggestions to make for changes in the fundamentals. For the most part, they are content with the Act as it stands. But there are two particulars in which it is felt that strength and efficiency could be added:

First, remove government bonds as eligible collateral for commercial paper acceptable for rediscount at Federal Reserve Banks, and thereby destroy a wide avenue for rapid inflation.

Second, reorganize the Federal Reserve Board so as to divorce it from other government activities and relieve it of the embarrassment of ex officio membership.

# Economic Factors in the Location of Manufacturing Industries

By MALCOLM KEIR
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TO overcome restrictions limiting enterprises to special localities has been one of the unconscious purposes behind industrial progress. A study of the factors that hitherto have bound particular industries to favored places shows that technical or social advances have loosened the grip of such factors. These advances foreshadow greater freedom of choice in the location of future manufacturing projects. The bonds that have hobbled manufacturing business are raw materials, labor, market, power or fuel, capital and transportation. Not all of these have restricted all industries, nor are the undertakings actually affected under equal subservience to each factor, but taken together the considerations mentioned constitute the principal dominants in factory location. Yet with the exception of the market and transportation, each shows a waning power over the placement of a factory.

### THE PART PLAYED BY RAW MATERIALS IN FACTORY LOCATION

Raw materials have not dictated factory location to the extent that they necessarily determine mining—where there is no coal there are no tipples, and concentrators are useless where copper ore does not exist—for even the first factories both in Manchester, England, and Pawtucket, R. I., were leagues distant from the cotton fields of the West Indies, the Carolinas and Georgia. Nevertheless, bulky, cheap, fragile or perishable raw materials have usually limited factories using them to the neighborhood where the materials exist. In fact, in the case of bulky cotton cited above, the works that today are remote from our South specialize on cloth that has more value in skilled labor than in raw material while heavy cheap stuffs whose chief value lies in the contained cotton are made where cotton grows.

Thus Manchester produces batiste, New Bedford, the highest grade sheeting or muslin, while Greenville, S. C., turns out weighty duck. Similarly, heavy clay is baked into bricks where the clay lies, and heavy wood is fashioned into clothespins, coat hangers, rolling pins and mixing bowls within the shade of the forest itself. The fragility of coke prevents its shipment for distances beyond six hundred miles because the bumps and jars of railway travel reduce valuable lumps of coke to useless dust that blows away. Since the highest known grades of coking coals are found at Connellsville, Pennsylvania, near Pittsburgh, the latter city has had a unique advantage that largely explains its supremacy in the manufacture of iron and steel; for in making pig iron a pound and a half of coke must be added to every pound of ore. In like manner, hemlock and oak bark are too fragile to withstand long railway hauls so that tanneries in the past utilizing the bark as the source of tannic acid were forced to establish themselves where the trees grew and, when one supply was cut off, to move to a virgin stock. Massachusetts, Pennsylvania and Tennessee have each in turn supported a forest tanning industry.

Again, perishable raw materials must be turned into durable products near the origin of the materials. Maine farmers in northern Aroostook County were once famed for changing perishable potatoes into lasting starch; this year when prices of potatoes dropped from three dollars a barrel to forty cents, the northern farmers were saved by the starch factories, whereas their friends in the southern part of the county dumped 45,000 barrels of potatoes into their fields for fertilizer. Campbell's Camden soup factory saves New Jersey tomatoes from spoiling in the field or in transit. Cotton gins are on the edge of plantations because seed cotton ferments in short order; and for like reason the seed mill abuts the gin.

### Concentration and Substitution of Materials Loosen the Shackles of Location

Since raw materials have imposed these limits upon certain types of manufacture, the conditions challenged the men engaged in the industries to devise means of throwing off the constraints. Concentration from a lower to a higher percentage of valuable content has permitted the long distance shipment of some raw materials that otherwise would have been refined at the source. Copper smelters of Butte concentrate ingots of copper that may then be carried to Newark, N. J., for final refinement. Minnesota iron ore is not shipped "as it runs" but is first graded upward and then sent to blast furnaces at Duluth, Cleveland, Erie, Conneaut, Pittsburgh and Buffalo. In the tanning industry, freedom from the necessity of a forest location was long since attained by leeching the tannin from the bark and shipping the resultant "extracts" to convenient sources of hides or markets. The canneries have not yet been loosened from the fields or orchards but the difficulty is under study. Cold storage has lengthened the distance and time from bush to can, and now the enthusiasm over vitamines promises a new release. Extract vitamines from fruits or vegetables and decay is arrested. If this be true, the limitation upon cannery location is removed. If none of the manipulations of raw materials suggested proves feasible in a given case, there is always the possibility of release by substitution.

Pittsburgh's virtual monopoly of the best coke has been defied by the invention of ovens that take ordinary grades of coal and, by saving the by-products, turn out a good quality coke at a mod-

erate price. Recent reports of the Federal Trade Commission indicate that if it were not for the common ownership of Pittsburgh mills and those at Duluth, Birmingham and elsewhere, Pittsburgh could not hold its own in competition. As it is, the higher Pittsburgh costs are set as the base levels in determining prices for the nation regardless of cheaper costs in more accessible localities.

Substitution of raw materials has taken place in the furniture industry, particularly the branches dealing with office, kitchen and hospital furniture. Wood is replaced with steel. The greater accessibility of steel, of course, is only a partial reason for the change; high price of wood due to declining supply must be taken into account. The paper business for centuries held in leash to large cities, especially ports, so as to be supplied with the all essential linen rags, found greater freedom fifty years ago when wood pulp was substituted for rags. Paper mills that had been localized near Philadelphia were scattered along the edge of the forests from Maine to Minnesota. So far as raw materials are concerned, therefore, industry by concentration or substitution is apparently passing out of bondage in regard to location of plants. An analogous story may be told in respect to labor.

### Skilled Labor as a Factor in the Localization of Industry

Nearly every industry in its youth has been subservient to skilled labor, and many of our important manufacturing enterprises are still in thraldom to labor. Sanitary pottery is entirely the work of skilled hands with no intervention of machinery. Glass blowing is a matter of lungs, legs, and fingers. Shoe manufacture was a hand trade until after the Civil War, and although every operation may now be done by machines, the latter require skilled labor in their operation. This labor is so well organized that it virtually controls the shoe business. Wherever skilled labor is an important item of production, the home of the labor determines the location of the industry. Ties of sentiment and property hold the skilled labor together in one place so that employers must go where the labor lodges.

The result is a high degree of localization of industry, one of the most outstanding features of American manufacturing; indeed the names of many American towns are nearly always associated with the principal product of the place—an industrial hyphen. As a basis for such an assertion one need but mention Brockton or Lynn-shoes, Waterbury-brass, New York-clothing, Troy-collars, Bridgeport-corsets, New Bedford-cotton, Gloversville-gloves, Philadelphia-hats, Providence-jewelry, Akron-rubber, Patterson-silk and Chicago-packing houses. The essential common factor in all these localized industries is need and dependence upon skilled labor.

### The Lessening Significance of Skilled Labor as a Determinant of Factory Location

But labor's skill is an ephemeral prize. Machinery, sub-division of labor, multiplication of industries or trades blot out trade distinctions and tend to reduce all labor first to semiskilled but eventually to the unskilled basis. Indeed the mere existence of skilled labor's power over industry is a challenge to employers to find a way to offset this authority. Transference of skill to perfected machines is one step in the desired direction. Simplification of jobs together with specialization upon the simplified tasks continues the course.

Of great assistance to employers in

these matters is scientific management with its motion, time and fatigue studies, together with functionalization. A thorough installation of scientific management leaves little of skill monopoly in the hands of labor. Except as upspringing new industries, the power of organized labor, and the resistance of inertia delay the movement, the trend is away from skilled labor and toward one universal class of unskilled. The significant feature for our purposes of such a change is that unskilled labor has no pride of locality, no roots running deeply and intertwined into the community that an employer is bound to respect. Whereas skilled labor, without change of residence, draws the factory to itself, the unskilled must seek the factory wherever the owners choose to put it.

Consequently, localization of industry based upon skilled labor is likely to be of continuously less significance. Electrical porcelain potteries differ from sanitary potteries in that the former use machines largely, and employ semi-skilled labor. While sanitary ware manufacture is localized at Trenton, N. J., or East Liverpool, Ohio, electrical porcelain is manufactured in a score of scattered places. Glass manufacture, long under the dominion of labor, has substituted compressed air for lungs, molds for skilled fingers, and travelling belts for legs. Hence glass blowers are losing their aristocratic bearing, and factories may seek locations regardless of labor domination. The trade was once centered in New Jersey, but today it is practiced in western Pennsylvania, Ohio, West Virginia and Indiana.

A few shoe manufacturers have started making footwear upon the same principles of standardization as Ford cars. If the experiment succeeds the way is opened to escape from the restrictions upon location due to labor; for standardization of leather, lasts, methods and internal factory transportation removes the insistent need for skill. Brass casting, long an hereditary secret among selected casters in Connecticut, is now under the control of the chemical and physical laboratory. Significantly, it is Buffalo, not Waterbury, that blazes the way with the new scientific methods. Collars in Troy may be made by machines; the principal reason why so many of them are not is the influence of changing styles upon standardization. In short, the attack has been carried into every localized stronghold, and has been so successful that the phenomenon of localized industries due to skilled labor is yearly harder to demonstrate and promises to disappear. If it does, the hold of skilled labor upon the location of a factory is broken. Questions of labor quantity, not quality, will then be raised when a factory location is considered. Since the sands of Lake Michigan can be turned into a Gary, and the mountain fastnesses of Mingo County into a Matteawan, the temporary absence of unskilled labor from a particular location is not a vital matter and may be remedied.

### Nearness to Market Continues to Control the Location of Manufacturing Plants

The third great factor that has most often fastened factories to specified localities has been the need to be near markets. Of course, with this as with the other factors mentioned, some industries are more vitally concerned than others. Products that are easily broken, bulky, or are needed for quick convenience are most under the domination of market. For example, pottery is hard to ship without breakage and consequently the potteries find their best location near the places of largest

sale. For this reason Ohio leads the nation in making drain tile, a product in great demand for the farms of Ohio, Indiana, Illinois and Iowa. Since agricultural tools ordinarily are not only bulky but also must be repaired without delay, they are manufactured as near the farm as is convenient. Corn belt tools are made at Chicago and Springfield, Illinois, while the wheat belt—Kansas, Nebraska, the Dakotas and Minnesota—receives its farm implements from Chicago, Moline, Rock Island or Davenport.

The manufacture of textile machinery and equipment in Worcester and Providence near the large textile centers of Massachusetts, illustrates the factor of convenience. It is a simple matter to make quick repairs and adjustments when the machine manufacturing industries are near the machine-using industries. In general it may be said that nearness to market is the most important of location considerations to the largest number of manufacturing enterprises.

Unlike the cases so far mentioned, industrial progress has not materially lessened the power exerted by the market factor. Nevertheless there have been attempts to combine large scale industry and even localized manufacture with decentralization of plants near to the final consumer. The manufacture of Ford cars is a case in point. The principal plant, of course, is at Detroit, but all the large distributing centers have assembling plants of considerable size. These plants also manufacture some small parts and do much repairing on cars already sold. This scheme admits of large scale production of the principal parts of the car at Detroit with cheaper shipment in the knock-down state to the sub-manufacturing unit, sand then the assembling and final shipment to the consumer from these units.

Although the Ford car is spectacular in this device, it is by no means unique. Similar schemes are practised in many other trades, Montgomery Ward & Company, the large mail-order house, in addition to its principal warehouse at Chicago, has branch houses at St. Paul; Portland, Oregon; Fort Worth, Texas, and Kansas City, Missouri. Furthermore, the large shoe manufacturing concerns of eastern Massachusetts have branch plants in St. Louis and Cincinnati. Even with a new type of transportation or with the changes indicated below in regard to transportation, the factor of nearness to market is likely to have an enduring influence upon the location of manufacturing plants, for the factory nearest to the market will always have an advantage over one more remote.

## POWER AND FUEL AS INDUSTRIAL SITE CONTROLS

Among other matters that have had a bearing upon where a factory should be built have been the factors of power and fuel. The earliest factories used so little power and the machines were so small and light that small streams could be harnessed and made to render service. The parts of the United States that were then settled were provided everywhere (except in the extreme Southern Atlantic Coastal Plain) with small power sites. But after the invention of the power loom and the erection of the first complete factory at Waltham in 1814, the situation changed. Large water powers from that time on became increasingly important. Such sites were limited in number. Therefore manufacturing tended to collect about the available sites. Instances are Lowell, Lawrence, Holyoke, Paterson, Woonsocket and Norwich. These sites were open to the usual objection to water power, namely, that it is confined to the power available at a par-

ticular spot and has definite limits to expansion.

Increasing demand for products, and hence search for power in order to take care of the necessary increase in manufacturing facilities, eventually led manufacturers to adopt steam in the place of water power. Although the steam engine was improved and its manufacture cheapened, nevertheless at the time that it began to supersede water power, the latter was by far the cheaper source of power, costing only about a fourth as much per horse power per year as steam. The principal reason why the steam engine came into almost universal use was the elasticity and freedom with which it might be set up. Steam really liberated manufacturers in their choice of location, for a steam engine will operate anywhere that fuel can be secured. Unless power is a very large element in the cost of production, however, the cost of coal has very little influence upon the location of a mill. If power is a small item in total costs, then this cost may be tripled or quadrupled without vitally affecting the total cost of the products manufactured.

However, even steam does not give the widest choice of location. The limitation upon the use of steam power is the securing of cheap fuel. Fuel is cheapest at points nearest to the coal fields and expensive in proportion to the distance from the mines. There is a final limit to the distance which coal can be carried economically for manufactures. This limitation partly explains the absence of manufacturing from such places as North and South Dakota, Kansas and western Texas.

Another source of power and fuel is crude oil or natural gas. In regard to crude oil, the story is much the same as in respect to coal. Natural gas is more limited in its range from the source of supply than either coal or crude oil. Although West Virginia gas has been utilized as far distant as the glass works of Muncie, Indiana, necessity of transporting the gas through pipes, limits in general the distance that it can be carried for economic use.

### Electricity Curtailing the Power Factor as a Determinant of Industrial Sites

The factor which tends to liberate manufacturers from the constraint of any of the power or fuel sources mentioned is the transference of energy into the form of electricity. Power developed from the Mississippi operates mills in all the little towns of western Illinois within the radius of Peoria and Springfield, while Connecticut River power harnessed below Brattleboro operates machinery in Providence On the Pacific Coast hydro-electric power has been carried 500 miles before it was used. Similar proposals are being made to develop electricity from coal at the mine. If the various sources of electrical energy, either from water or coal, in the East were joined in one super-power system, then there would be no region east of the Alleghanies that could not use electrical power in any amounts necessary.

A similar development from the fuels and the water powers of the Middle West would give ample power to the whole region. By turning the low grade fuels found in North and South Dakota and Texas (lignite) into producer gas and then changing the energy into electricity, these regions also could be supplied with the essential that they have so far lacked. The New Salem field of North Dakota alone is estimated to contain two billion tons of lignite. It has a tested heat value of 6700 B. T. U. Translated into dollars, this means that at $5 a ton the prairie lignite is equal to Pittsburgh bituminous coal at $10.20 a ton. If instead of

steam engines—the basis for the foregoing—the lignite were gasified and then made into electricity, its value would be even greater. The streams of the Rockies and the Cascades could be turned to commercial advantage in the Far West, as some of them already are. Therefore, even under the limitation of transmission of power by wire there is no region of the country that is beyond the feasible range of transmission of electrical energy.

When one indulges in prophecy and deals with the attempts to transmit electrical power by wireless, then he faces the possibility that there may eventually be no place without the service of any amount of power required. Such an industrial opportunity is far removed from the constrictions in power that first faced the manufacturers of this country and led them to erect "Lowells" and "Holyokes." So far as power is concerned, Death Valley and New York City would be equally available as factory locations.

### Capital, Unprovincial, the Least of the Factors Affecting the Location of Industries

One other factor which sometimes has a bearing upon the location of factories is capital. There are men, the possessors of surplus funds, who will not invest them in any project that they cannot keep under their own eyes. The retired whaling captains of New Bedford, seeking investment when whaling declined, would not support projects as near by as Fall River but insisted on putting their money into "home enterprises," thus establishing New Bedford as a cotton mill city. Insofar as such individuals exist, they tend to keep manufacturing local wherever the enterprise depends upon local funds.

But for the most part, capital is not provincial; Beacon Street's timid old maids furnished part of the capital for the roaring copper towns of Butte and Anaconda. Furthermore, capital is not national; in itself it has no patriotism. The Pennsylvania railroad is owned in part by the widows and orphans of Scotland, while on the contrary, 73 per cent of the Canadian Pacific railroad is owned by people in the United States and only 17 per cent by Canadians or British. Mexican oil is shared in its exploitation by American and British interests, while the World War focused attention on the extent of German ownership of French, British and American industries. Wherever there is a reasonable assurance of gain and a minimum risk, there capital can be secured. Consequently, a man desiring to set up a factory would not ordinarily have to depend upon local capital to support his project. If it gave reasonable assurance of success, capital, even from distant points, could be secured for financing the enterprise. So we can set down capital as the least of the factors that have a bearing upon the location of industry.

### How Railroad Rates Fixed Industrial Centers

Interwoven with all of the factors so far considered is the vital matter of transportation. Lack of transportation thoroughly decentralizes industry. The earliest stages of manufacturing in this country when all industry was of the local type exemplified by saw mills and grist mills, well illustrate how absence of carriage facilities constricts business. The progress of railroad building from 1828 to 1900 was a most essential element in determining manufacturing activities in the United States. Railroad policy was a vital influence in the growth and preëminence of eastern manufacturing.

In order to bind the whole nation together and to encourage the use of

railroads in thinly settled regions, it was a necessary part of railroad strategy to fix freight rates at the lowest possible point. As a result, between 1828 and 1916 railroad freight rates were successively revised downward. Furthermore, the rates were arranged to give precedence to the long haul over the short haul. It was to the interest of the railroads, since they made their profits on the long rather than the short hauls, to keep manufacturing localized in the East where it first developed and to prevent wide decentralization of manufacturing in the western agricultural regions.

Rates were also adjusted so as to give undue favoritism to the large Eastern seaboard cities. This led to the building of great centers of population in the East specializing in manufacture and the wide dispersal of agriculture in the Middle and Far West. The result was a long haul for manufactured articles westward and a long haul of agricultural products eastward. Some of the farm output was necessary to feed congested areas in the East, but in addition large amounts of it were raw materials for the factories of the East. It is a little-appreciated fact that factories secure three-fourths of their raw materials from farms, and that half of the farm products go to factories. The fixing of rates as indicated was a part of a necessary stage in the economic development of the United States and criticism cannot justly be levelled against it. Without such an arrangement it is difficult to see how a continent so quickly could have become a nation.

### PRESENT TENDENCIES POINT TO DECENTRALIZATION

But the period when these things were necessary has passed. The country is now settled from coast to coast. There is no need for keeping the industrial development of one region artificially stimulated and another region artificially retarded. For many other reasons not germane to this subject, the whole railway industry is under intensive scrutiny and faces epochal changes. The matter of the long haul and the short haul is likely to be changed in the general reorganization of the railway system, which is imminent. It seems likely that the railroads may soon be under the control of the government again and operated for service rather than profit. Among other reforms that seem probable is the adjustment of rates on the basis of service rendered. This means that rates will probably be placed upon a mileage charge plus a charge for terminal facilities.

If this occurs there will be a rapid decentralization of manufacturing. Then localization of industry no longer will be profitable. Nearness to raw materials and especially nearness to market will be enhanced as factors to be considered in locating a factory. The great centers of population in the East will be vitally affected. Without artificial support from the railroads the centers could not continue their industrial supremacy. Insofar as the eastern cities turn their attention to the manufacture of articles using imported raw material or manufactured articles for export, their manufacturing plants could be retained and even increased. The commodities needed by the people living in the East also could be manufactured in that region but the vast consuming market in the Middle West would be removed from the dominance of eastern manufacturers and supplied by factories in the Middle West itself.

In fact, the Middle West is likely to witness a rapid increase in its industrial activities. It is not without meaning that the state of Michigan led

the nation between 1910 and 1920 in increase of population. All of the natural factors favoring manufacturing are to be found in the Middle West. Raw materials from the farm and from the mines are easily available, power and fuel are at hand, living is cheap because of the prevalence of farms, and labor is available, especially that of women.

### How the Westward Movement Favors the Worker

On the human side it is far more desirable to have a large number of relatively small factories scattered through the small cities and towns of the Middle West than it is to have great plants erected in the large cities of the East. The life of an artisan in a large city is often figuratively expressed as machine slavery, and the facts of the life—tenements, scorching grassless pavements, noise, violence, disciplined attendance at work, ceaseless fear of the arbitrary life and death decisions of employers—do not give the lie to the name applied. The vaunted advantage of the city in supplying amusement is usually limited to pipe smoking of evenings, coatless on the airless front steps. Of course there are movies too—but every hamlet has its movies.

On the other hand, workers in a Mid-West factory in a moderate sized town escape tenements for cottages, combine gardening with shop craft, sleep in quiet, and, because the "boss" and his men have many intimate social contacts outside of working hours, the rigor of discipline is lacking during the work day. Furthermore, the artisans of the smaller places and some of the large are mostly American born. Kansas City holds first rank among our cities by her verified claim that 85 per cent of her citizens are born in this country. From the human viewpoint therefore, a shifting of factories to the Middle West is advantageous.

### New Factors in Transportation

The new factor in transportation, the automobile truck, foreshadows a quickening of the decentralization of industry. The truck has already demonstrated its ability to compete with railroads for distances of fifty miles. If the railroad is forced to concentrate its efforts on short haul business it will come in conflict with the truck. Rates ought to reflect this competition; if they do, then more than ever will it be advantageous to put a factory within short reach of its raw materials and especially its market.

As regards the airship, the latest transportation agent, speculation as to its development is dangerous in the face of the achievement of the automobile. Even now planes flying 120 miles an hour have reached an engine efficiency of twenty miles to the gallon of gasolene. No automobiles at that speed have ever attained so high a mileage and few cars at any speed have reached it. Nevertheless, it appears that the air craft for some time will be limited to carrying small valuable packages, or those in which speed of delivery is of importance. If they do offer serious competition to the railroad or truck, they will turn the tide of industrial decentralization backwards and permit centralization because they mitigate consideration of distance or time. But one fact stands out—however efficient and cheap air transport becomes—it will always remain true that the producer nearest his market has an advantage over his competitors. This truth will in the future as now exert a powerful leverage toward decentralization.

In general the ordinary considerations that have limited the choice of factory location—raw materials, labor,

market, power or fuel, capital and transportation—have been shown to have lessening force as industrial progress has been made. To this generalization two partial exceptions have been made,—one in respect to market and the other as to raw materials. Under the new freedom as regards most of the factors of location, but limited by the changes in transportation, we have indicated the likelihood of the important rôle to be played by the Middle West. The selection of a location for a factory should not be made until serious thought has been given to reasoning of this character.

# The Railroad Predicament: How It Arose and How to Get Out of It

By T. W. Van Metre
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WHEN the armistice was signed in November, 1918, the people of the United States turned their attention at once to the many problems of "reconstruction" which were the legacy of war. Among these problems none presented more serious difficulties than the railroad question. For several years before the government had assumed charge of the railroads, the nation had been vexed with a "railroad problem." A year of government operation had served to add to former complications. There was universal agreement that radical action of some kind was necessary, but unhappily there was a bewildering confusion of counsel as to what this action should be. There was no resolute leadership, and there was no solidarity of opinion.

The many suggested "plans" for dealing with the railroad situation fell into three general classes:

1. Government ownership. The leading advocates of this policy centered their energies upon the promotion of of the Plumb plan.

2. The continuation of government operation for a longer period of time than had been originally contemplated. This plan was proposed by Mr. McAdoo, the first Director General of Railroads, and approved by his successor, Mr. Hines. Mr. McAdoo felt that government operation should be given a further test for at least five years, during which time a permanent railroad policy could be worked out in an orderly and scïentific manner.

3. The speedy resumption of private control, with the enactment of such legislation as would remove the most glaring defects of the former railroad policy. Railroad managers, the owners of railroad securities, and the great majority of the public indorsed this general program, though there was a wide divergence of opinion as to what should be the character of the new Federal railroad legislation.

It was the last mentioned policy which was adopted. Congress was disposed to give little heed to any suggestion of government ownership, and was also averse to a continuation of Federal control for a period longer than was necessary for the enactment of a railroad law. President Wilson had no constructive suggestion to offer. He too was in favor of the speedy resumption of private control, but he chose to leave to Congress the task of formulating a new national railroad policy. After a year of somewhat perfunctory investigation and wrangling over details, Congress finally passed the Transportation Act, which became a law on February 28, 1920, two days before the termination of Federal control.

### The Promise and Results of the Transportation Act

Railroad managers assumed charge of their various properties with a feeling of optimism. A guarantee of the standard return for a period of six months gave them assurance of time to reorganize their somewhat scattered forces without fear of financial trouble. Before the guaranty period expired the Interstate Commerce Commission, in compliance with the terms of the Trans-

portation Act, ordered a large increase in rates and fares, an increase which, if the volume of traffic should be maintained, would give to the carriers the "fair return" to which the law declared them to be entitled.

What were the results? The promise of a speedy restoration of railroad prosperity was not fulfilled. The business depression which began in 1920 was soon reflected in a sharp decline of railroad traffic, a decline which the increase in rates did not fail to stimulate. The railroad managers, finding their gross income much smaller than they had hoped for, with little prospect of early improvement, discovered that the working agreements and wage schedules negotiated during the time of Federal control were resulting in excessive and unfair returns to labor. They accordingly precipitated a controversy with their employees, in a manner so undiplomatic and at such variance with the express terms of the law that they aroused the bitter resentment of their workmen and earned for themselves the condemnation of a large group of railroad security holders. Agricultural, lumbering and manufacturing interests in many sections of the country, confronted with a downward movement of prices, began a chorus of protest against high railroad freight rates. Railroad credit, none too strong for many years, became almost demoralized. The railroad Labor Board, the Interstate Commerce Commission, President Harding and his Cabinet, are now all at work trying to solve the railroad problem again. The Senate is holding another investigation of the railroads to find out what the railroad problem really is, the only result being that it is turning over soil that has been plowed and replowed so often in the past ten years that a crop has never had a chance to grow. The public is fed with bulletins and press dispatches most of which consist of a mass of misleading propaganda from prejudiced witnesses who have recited their pieces so often that they are almost at the point of believing them to be true.

In surveying the present situation one feels inclined to wonder if Mr. McAdoo's suggestion that the period of Federal control be extended for at least five years was not worthy of more consideration than it received. His plan, if adopted, would at least have had the virtue of making possible the clear establishment of responsibility for the events of the reconstruction period. It is not unlikely that many weary railroad managers would gladly be relieved of the burdens which their haste for a resumption of private operation has so unexpectedly brought to them. But whether the choice of policy was wise or not, the choice was made, and we must abide by it. The problem of what to do next is the pressing question, and there is little comfort or profit in vague speculation as to what might have been.

## Immediate Financial Aid for Railroads a Step Toward Business Revival

The railroad depression has existed so long and seems to have gone so steadily from bad to worse, that one is justified in asking whether there is ever going to be a marked improvement of a permanent character. Promise has succeeded promise, and each has been devoid of fulfillment. With the general economic situation such as it is, it is of the highest importance that whatever steps can be taken to restore the roads even temporarily to a semblance of prosperity should be taken without delay. While the railroad situation is not responsible for the general business depression, it is unquestionably a contributing factor of

no little significance. A partial restoration of the railroads to financial stability would do much toward stimulating activity in other fields of business enterprise. Something can be done perhaps to repair the fortunes of the railroads, irrespective of their relation to conditions throughout the business world.

### UNBUSINESSLIKE POLICY OF UNITED STATES RAILROAD ADMINISTRATION CHIEFLY RESPONSIBLE FOR PLIGHT OF RAILROADS

The present financial plight of the railroads is due, more than to any other single cause, to the shortsighted policy pursued by the United States Railroad Administration when it conducted the railroad business at a loss. During the entire war period, while other business establishments in the United States, by increasing the margin between expenses of production and prices, were piling up surpluses to tide them over the inevitable period of reaction, Mr. McAdoo obligingly kept railroad rates at a level which produced revenue barely sufficient to meet the actual expenses of operation, and turned to the Federal Treasury for funds to meet the deficit occasioned by the necessity of paying rentals for the use of railroad properties. It does not appear that the government was unduly extravagant in operating the railroads. It was forced to pay higher prices for supplies and higher wages to workmen, but costs in the railroad business did not advance any more rapidly than in other fields of industry. As a matter of fact, when the period of Federal control ended, the wages of railroad labor were considerably below the level of wages of labor of a similar character in other industries, a condition which the Railroad Labor Board recognized in reaching its first important decision. Where the Railroad Administration failed, was in refusing to advance railroad charges at a rate commensurate with the rate of increase of commodity prices and wages. A single increase of twenty-five per cent was Mr. McAdoo's only notable change in freight rates during a period in which commodity prices and wages advanced approximately one hundred per cent. Had he pursued a sound business policy he would have exacted charges which would not only have served to meet all costs of operation, but which would have provided a surplus to meet any possible future claims for under-maintenance and to create a fund which in fairness the government could now turn over to the railroads to carry them through the period of depression.

The shortsighted financial policy of the Railroad Administration had certain unfavorable results which were perhaps of more significance than the deficit. When the railroads were turned back to their owners, the small margin of net earnings made necessary a large increase of rates and fares, which was promptly granted by the Interstate Commerce Commission. This increase came at a most unfortunate time, just when the prices of nearly all commodities were rapidly falling. While the advance of freight rates during a time of falling prices was probably not the sole cause of the large reduction of freight traffic, it certainly did not have the effect of encouraging greater shipments. The worst effect of the increase, coming when it did, was in its psychological aspects. It placed the railroad companies in a bad light with their employes and with shippers. No farmer who has just seen his wheat drop from three dollars to a dollar and a half a bushel accepts a forty-five per cent increase in freight rates with an air of cheerful equanimity. A drive for a reduction of wages loses some of its

effectiveness when it is staged immediately after a substantial advance of prices. What manufacturer would be so foolhardy as to advance the price of his product thirty per cent and the next month post a notice to his workmen that their wages would be cut twenty-five per cent and the working-day extended from eight to ten hours? The fact that the current of railroad finance was permitted to run almost directly counter to the current of finance in other kinds of business placed the carriers in an extremely awkward position.

Had the Railroad Administration exercised good judgment the carriers would have been in a position in August, 1920, to reduce rates instead of advancing them. Such action would have had a stimulating effect upon business and would have been to the advantage of the carriers financially. The campaign for a reduction of railroad wages would at least have had a background of greater plausibility. And the surplus which the government might have accumulated could have been used to prevent extreme financial embarrassment during the time of readjustment.

### The Federal Government Should Make Restitution

Since the temporary insolvency of nearly all the railroads of the country is due largely to the unwise policy followed during the period of government operation, it seems that the only way out is for the government to make amends. It is probable that railroad bankruptcy on a large scale can be avoided only by government subvention of some kind. The government should give to the carriers, either as a subsidy or as a long time loan without interest, a sum equivalent, as nearly as possible, to the surplus which the Railroad Administration might have created out of earnings had adequate rates been established. A great many rates should be revised downward to permit traffic to move. Wages are being reduced and will probably have to be reduced still further. Net earnings will have to remain small throughout the period of readjustment, but with adequate government aid the carriers will be fortified against bankruptcy.

### Financial Improvement Not Enough—Better Management Needed

It is not, however, the question of immediate reëstablishment of the financial strength of the railroads that should command the major share of attention. It has been apparent for a number of years that there is something fundamentally wrong with the great railroad system of the United States. It needs some overhauling. It seems to be suffering from a progressive decay, and little has been done to determine the cause. We have now succeeded in overcoming some of the vices which have so long afflicted the suffering railroads. Dual regulation by State and Federal authority has been checked; the Interstate Commerce Commission has received power to control railroad capitalization; there is a new commission to deal with labor controversies, and a long desired rule of rate making has been written into the statutes. When economic conditions return to normal there is a faintly hopeful expectation that the railroads will enter upon a life of renewed vigor. But will they do so? With these beneficial changes the situation should be somewhat better than it has been for several years past. But it will be only a question of time until the old round of complaint from management, labor, and shippers will begin again.

We shall not obtain substantial improvement in railroad transportation

until we have a few railroad managers who are big enough and bold enough to bear witness that the present railroad system is in many respects hopelessly antiquated; who, realizing that there has not been a single change of importance in the railroad business for a quarter of a century to meet the remarkable changes in American industry and commerce, will engage in a crusade to bring the railroad business up to date.

Apparently the only ideal that has ever actuated a railroad manager or financier in the United States is the ideal of size. Railroad development has been measured by the number of miles of track laid each year, no matter where they were laid or for what purpose. The ambition of the average railroad executive is to have the biggest freight car, the biggest locomotive, the biggest passenger terminal, or the biggest something else that is to be found in the world. Railroad management has been hypnotized by the processes of large scale production. Before 1900, when railroad traffic throughout the United States consisted chiefly of coal, grain, ore, lumber and other cheap bulky articles, there was ample justification for the development of a transportation mechanism intended primarily to carry huge quantities of bulk freight cheaply and expeditiously. Unquestionably, the railroad managers of America have led the world in the mass production of transportation.

### Adjustment of Transportation Mechanism to Nature of Traffic

It is a significant fact that the eastern railroads have been those which in the past twenty years have had the greatest difficulty in making both ends meet. For a long time the eastern portion of the United States has been undergoing a process of industrialization. There has been a remarkable increase in the demand for transportation in retail quantities instead of wholesale. It is time to inquire into the economies of using the same transportation mechanism to carry innumerable small shipments of package freight that is used to carry bulk shipments of coal, grain and ore. Why does it cost so much more to carry freight on the railroads of the industrial sections of New England than it does on the railroads west of the Mississippi River? May it not be partly due to the fact that the western roads are using a machine specially designed for the kind of traffic which they carry and the New England roads are using the same kind of machine to carry a different kind of traffic?

The only reaction which railroad managers have had toward successful motor truck competition in densely settled eastern districts has been in the nature of a pious objection to an unwarranted invasion of a vested right to conduct a business in an inefficient and uneconomical manner. It may have occurred to some of them that startling economies might be obtained by the coördination of railroads and motor trucks, with a pick-up and delivery service, but if so they have kept still about it.

A favorite gesture of American railroad financiers in past discussions of the capitalization of their roads has been to point to the comparatively enormous capitalization of English railroads. Have they ever stopped to consider that these heavily capitalized English roads, in the period before the war, with a relatively small tonnage of freight, with passenger fares which were considerably lower and freight rates which, in view of the service rendered, were probably no higher than in this country, were able to pay fairly good returns upon their capitalization? Transportation conditions between

Boston and New York are not greatly different from the transportation conditions over a large part of England. But the business is by no means conducted in the same manner.

### The Importance of Coöperation—Joint Use of Terminals and Pooling

It has been pointed out over and over again that the railroad freight terminals of the United States, because of the competitive conditions under which they are operated, are a source of incalculable waste. During the troublous times of 1917, and for several years before that, when the waste of competitive terminals at large commercial centers was decried, railroad managers excused the system on the ground that coöperation was illegal because of the Sherman Act and the anti-pooling section of the Interstate Commerce Act. The Transportation Act expressly authorizes the organization of railroad pools. Has there been any notable attempt to take advantage of this law to effect a better organization of freight terminals? If anything, terminal competition has grown steadily worse during the past year. The coöperative activities inaugurated by the government have in a large part been discontinued. In Chicago, one powerful railroad corporation is endeavoring to obtain exclusive possession of important belt line facilities. In New York, the railroad financiers have shown their coöperative spirit by organizing a corporation to build a Hudson River bridge, just after the New York-New Jersey port commission recommended the construction of a great union terminal, the central feature of which was to be a tunnel under the Hudson River at about the same point where the piers of the contemplated bridge are to be installed.

### Improved Personnel Policies In Order

Railroad management in the United States is suffering from arrested development. During the past quarter of a century the country has moved ahead; the railroads have held back. Railroad corporations, the oldest, wealthiest and most powerful business institutions of the country, have scarcely felt the impulse to spend money on educational activities for their employes. Yet educational work has been pursued with most gratifying results by dozens of banks, insurance companies, manufacturing establishments and department stores. Not until the Railroad Labor Board ordered the abrogation of the national working agreements did the carriers discover that virtually no machinery existed through which they could conduct conferences with their working forces. The Pullman Company, apparently at a loss as to how such machinery could be created, tried to negotiate new agreements in a mass meeting. Railroad presidents claim that they want college graduates in the railroad service, but where is the college graduate who seeks railroad employment? Heads of engineering schools testify almost unanimously that their graduates no longer enter railroad service because the railroad business has become so crystallized and so bound by routine that individual merit is rarely recognized and promotion comes usually through "influence" or mere seniority.

As the railroad system exists today it is an impressive monument to its wonderful past. But, like most monuments, it is surrounded by a graveyard atmosphere.

# The Recovery of the Grain Farmer

By CHARLES MOREAU HARGER
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AS a factor in the readjustment period of the country the position of the grain farmer is of prime importance. Especially in peace time, when no artificial stimulus is given to industral affairs, is the relation between the nation's business and its producers of raw materials intimate. This is not only because foodstuff production comes close to the interests of the consuming public, but also because it gives rise to a vast demand. The most powerful source of buying power in the American market lies in the operators of some seven million farms. Their demand is reflected in the industrial and financial worlds and indirectly touches workers of every class.

## DISTORTED PICTURES OF THE FARMER'S POSITION

No very clear picture of the actual position of the producer of foodstuffs, especially of the farmer of the interior states which furnish the bulk of our grain output, is visualized by the public. Between exuberant laudation by the booster and depressing description of hardships in meeting costs and living expenses by some political leaders, a confused estimate naturally results.

In any consideration of the rapid deflation of prices affecting agricultural products in the past year, it is easy to assume that the American farmer has fallen from a heretofore permanent high level of prosperity. The fact is that the producer in the pre-war period earned by strenuous effort whatever he achieved. Surveys undertaken in strictly agricultural sections showed returns of less than four per cent on the investment after allowing for the expenses of the farmer's family. He advanced by small percentages of profit on his labor, added to it a constant increment of value in his land and as a whole accumulated assets that were expressed in bank accounts and material possessions. Signs of progress were manifest in improvement of farms and development of communities dependent largely upon them.

War times brought a sudden expansion of income. From late in 1914 until the autumn of 1920 were the most prosperous six years in the farming history of this generation. Everything the producer had to sell was in demand at the highest prices he had ever known. He was raised to a new and higher level of prosperity.

## PRODUCTION UNDER WAR CONDITIONS

The same land upon which lower-priced commodities had been raised gave a larger return; practically the same equipment was used. The one factor that increased in cost was labor, but in these days of labor-saving implements and machinery, most farmers carry on the greater part of their operations with a minimum of outside assistance. While our armies were in the training camps and field, the home labor supply was lessened but often the work went on with little embarrassment. Living expenses for the family grew, but not necessarily in the proportion to that of the salaried classes of the towns and cities. The farmer's table is largely supplied from his own vine and fig tree.

The producer, however, found many reasons for complaint. He resented the regulation of wheat prices to approximately two dollars a bushel; at

market centers. He felt that high wages in government work caused him to pay too much for his employes. Nevertheless, throughout this period he was in a position to make a favorable net income.

### Expansion of Purchases

Like others, the farmer felt the impetus of abundant current resources. As one put it at a banker-farmer conference in Iowa last autumn, "We went in through the gate of extravagance and we must come out through the portals of economy."

Drive through the agricultural states of the interior. See the new houses, the silos, the barns and other equipment. Motors cars flourish by the thousand in every county, averaging one to every seven persons in a half dozen leading states. And all of them are in operation every day. The country people bought Liberty bonds to their full quota. One county out in central Kansas may serve as an example. It has 26,000 population, no large industries and no town as large as 5,000. This county boasts 5,700 motor cars; it bought $3,500,000 of Liberty bonds and gave $200,000 to war activities; in the autumn of 1920 it had over $3,000,000 on deposit in twenty-two banks.

### Other Forms of Expansion

Expansion took other forms. The farmer went into business. He not only invested in oil stocks, which proved expensive speculation, but he also placed money in coöperative stores, elevators and mills; he bought stock in the local bank; he helped promote ambitious schemes for establishing packing houses, flour mills, insurance companies, implement factories, and similar concerns which were to revolutionize industry, pay large dividends and prove a nemesis to the alleged machinations of Wall Street. Frequently the history of these concerns ended with the disposition of stock, but whether or not they managed to survive for a time, the funds invested were so much taken from the surplus which might well have served for a rainy day.

### When the Drop Came

Then something happened. In the latter months of 1920 a great part of the price advance in the farmer's products vanished. A few figures of the prices paid in the leading Middle West market tell the story:

| | Dec. 1, 1915 | Highest War Price | Dec. 1, 1920 |
|---|---|---|---|
| Cattle | 9.25 | 25.25 | 11.00 |
| Hogs | 6.60 | 23.40 | 9.90 |
| Wheat | 1.10 | 3.42 | 1.80 |
| Corn | .64 | 2.40 | .75 |
| Oats | .42 | 1.22 | .47 |

By midsummer of 1921, prices of farm products were down to the level of December 1, 1915, and in instances even below, while retail prices took a much more deliberate decline. Going back to buying power this is what had happened: While in 1915 twenty bushels of corn would buy a ton of pig iron, in 1921 it took forty-five bushels of corn to buy a ton of pig iron. Something similar existed with regard to most of the commodities the producer was compelled to purchase. Stunned by the turn in events and holding his wheat from the autumn of 1920 when it could have been sold for $2.40 to $2.65 a bushel until the following spring when it had dropped to approximately $1.00 a bushel—completely upsetting the advice that it would go to $3.00 a bushel if he stood firm—the grain farmer indulged in a so-called "buyer's strike" that inflicted a paralysis on trade and gave to the manufacturer a struggle for existence.

### New Impetus to Coöperative Selling and Control of Marketing

Out of his experience a new idea has come to the producer. Part of it resulted from the education of wartime with its insistence on computations to determine on what price-fixing orders should be based; part of it came from the contemplation of the "spread" between raw materials and finished product when deflation arrived. He is trying to find out just what it costs him to raise his grain, and at what price he can afford to market it with a fair profit that will cover his own labor and interest on his investment. Admittedly this is a difficult task. Conditions vary with soil, management and other influences, but the farmer is convinced that he is not securing from his output a return to which he is entitled. Based on this idea is much of the agitation in favor of coöperative grain selling, the establishment of warehouses owned by farmers and such readjustment of business methods as will give him control of marketing operations. These are now the most prominent in his thoughts, and organizations having for their object such methods are meeting with favor.

### Frozen Credits

The interior banker looks at conditions from another angle. He has been experiencing a period of congealed credits, largely as a result of the farmer's determination to hold his grain for higher prices and his consequent indisposition to buy commodities when prices failed to meet his expectations and hopes. Not only were the bank's ordinary resources tied up by the situation but it was common for the institution to borrow on its own account from the Federal Reserve Bank or from its correspondents, funds to enable it to care for its business. Deposits declined but loans were not liquidated except under pressure—and this the banker was reluctant to exert.

### Liquidation Under Way

The grain farmer entered on the 1921 harvest with two unfavorable factors—one material and the other psychological. He had borrowed heavily to maintain his operations while holding grain and he was convinced that he had suffered too severely in the deflation process. Out of his new crop he could hope for little more than forty per cent of last year's figures. He must prepare to seed the crop of 1922 and provide for his expenses until its garnering. One reaction was apparent: In the first weeks after harvest there was a disposition to hurry the grain to market. The recollection of the advice of the previous autumn to hold wheat was an impetus toward this action. Not only did he sell the just gathered bushels but he also cleaned his bins of year-old grain that had been stored. Whether this tendency is to be continued through the autumn and the crop is to go to market faster than normally is uncertain. It is likely that after the first pressing needs have been met more moderation will follow. However, the financial situation of the grain country has gained a positive benefit from the change in the producer's attitude and many a bank thereby will be enabled to clean up some of its rediscounts and borrowings and be placed in a position where it can care for the winter's needs of customers with less strain on its resources. For this the banks have been waiting and they will gain in courage and easier credit if the process is sufficiently extended.

All this does not, of course, mean that the grain farmer is immediately placed in a position of financial ability.

He has yet the problem of obligations incurred, including a heavy real estate indebtedness growing out of land speculation at high prices. This must be worked out under conditions far dissimilar to those of the half decade past. Primarily, the solution depends on the reduction of prices for commodities he is compelled to buy to the market level of those he has to sell.

## Factors on Which the Recovery of the Grain Farmer Depend

In some lines the purchase point has been reached, but by no means in all. The farmer generally believes that as a whole he is yet at a disadvantage and he has not wholly given up the state of mind into which he was plunged by the events of the past nine months. Until he does, he is likely to maintain an aloofness toward purchasing even the most ordinary commodities beyond absolute necessities. This reacts upon trade and makes the readjustment of retail business more difficult.

However, just as he made his larger income on the same farm that gave him his pre-war livelihood, so is that same farm still his stock in business. Generally it is improved beyond its former condition, and he has learned labor-saving methods that should inure to a lower cost of production. Three elements must enter into his recovery. One is the "portal of economy" to which the Iowa man referred; another is the adoption of scientific methods that will add to the stability of production. The third is a changed attitude toward business as a whole and an acceptance of the unity of all the nation's undertakings. Along with these go better marketing systems and such foreign trade that there may be a market for his surplus and the maintenance of prices.

## Self-help and Complete Recovery

Not all these can be accomplished in a day or a month, or perhaps in a year. It is the opinion of students of financial affairs in the farm country that it may take more than another season before there will be such readjustment of agricultural conditions as will reëstablish normal relations. The encouraging feature is that the producer has undertaken to do things for himself and is less inclined than before to depend on having things done for him either by legislation or by financial transformations.

That this attitude of self-help is essential to his progress is clear. It is possible that not all the dreams of a nation-wide grain marketing organization will come true, that coöperation in buying or selling may fail to render all the benefits promised by enthusiastic advocates. But the very fact that the grain farmer is thinking along constructive lines and that he is endeavoring so to guide his course as to place his affairs on a business basis and eliminate to the greatest degree possible the element of guesswork, gives basis for optimism.

Despite occasional gloomy presentations of the condition of farmers as a class, the individual producer seldom exhibits other than a fine courage and an implicit confidence in eventual success. He admits that he has made mistakes of judgment; he feels that he was a victim of circumstances in the process of deflation, but is convinced that he defended his position to the best of his ability—whatever may have been the effect on those dependent on his action. He has gained out of the experience faith in his own powers and he seeks to make them felt for his own good. It is possible that there may be a political movement, dominated by the agrarian element, with which the agri-

cultural states will have to reckon, but this depends largely on how sympathetically and intelligently business interests as a whole deal with the situation.

### THE FARMER IS NOT BANKRUPT BUT IS BETTER EQUIPPED THAN A YEAR AGO

The intrinsic wealth of the soil is still the heritage of the grain farmer. Sun and rain will give their bounty. The constant need of foodstuffs prevails. Out of a strained financial situation has come a broader understanding between the banker and his customers, with a larger faith in one another. With the first harvest of the new era past and its effects serving to loosen the financial tension, affairs in the farm country are becoming settled. Progress may be slow but every month brings nearer the establishment of stability. The farmer is not bankrupt nor is he going to be; he is doing his full part with the clearest vision he can command to attain a full measure of betterment. He should be given credit for earnest effort and fair intent. Basically he is better equipped today than a year ago, for he has passed through the period of readjustment and henceforth will be on sounder footing. And that, after all, is the condition that every class of business must reach before it can go forward safely. The farmer took the plunge first, and logically he should be first to see clearly his way ahead. That he has rounded the turn in his path is the belief of those most familiar with his affairs; henceforth he should steadily gain in faith and works.

# The Way Out for Cotton Growers

By W. ARTHUR SHELTON
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THE general decline in prices during the past twelve months probably inflicted severer losses on cotton growers than on any other class of farmers or on any other economic group in the United States. From June, 1920 to June, 1921, the spot price of middling upland cotton declined from 43 cents a pound to 10 cents. The larger part of the decline occurred from August to December, after the cost of the crop had been largely incurred and before any considerable portion of it had been marketed. A large part of the expense of the crop had been met by credit instead of cash, and the proceeds of the crop have amounted to far less than the cost.

### THE RESULTS OF PRICE MALADJUSTMENT

The market became so demoralized that if growers had generally attempted to sell the crop as fast as ginned, the price would have been so low as to have made it impossible to settle any considerable part of the obligations to creditors. Bank loans were restricted so generally that only a small amount of borrowing on cotton was possible. Growers met the conditions by selling somewhat less than the usual amount of cotton during the ginning period, by asking creditors for supplies to extend the term of credit, and by ceasing to purchase anything that could be dis-

pensed with. This reduction of purchases to a minimum was not voluntary. The farmer could not buy when his chief product could not be sold for a price at all commensurate with costs incurred before the price of cotton was known.

Not only did the cotton grower receive only one-third to one-fourth what he expected for the cotton and seed of the 1920 crop, but when supplies for the 1921 crop were needed, he also found that the price of many supplies had changed but slightly. It is little wonder, then, that the grower has reduced the cotton acreage to 72 per cent of that of 1920, the amount of fertilizer used to some 50 per cent and the other supplies to the lowest figure on record. The result has been that manufacturers of fertilizers have lost heavily and that agricultural implement factories are almost universally closed.

How can the maladjustment of prices be adjusted so as to give the cotton grower his usual profit and those who furnish him supplies their normal amount of business?

## More Cotton and Cotton Products for a World Market the Future Trend of Development

A brief review of the development of cotton growing in the United States during the past forty years seems necessary to avoid undue pessimism from the present painful situation. A broad outlook on the industrial development of the world is also an aid in disregarding the limitations of local confines. If America would be first, her leading export must be sold in the markets of the other 1,500 million people as well as in the markets of her own 100 millions. The cotton fiber and the products of cotton seed are susceptible of many uses not yet adopted. Many uses have recently been made of these commodities that will extend the world's demand for them, and no doubt many more will soon be made. Temporarily, the only way out for the grower has seemed to be the reduction of the crop and the restriction of competition by means of a tariff; but for the decades of the future, the open sesame is through the growth of more cotton and the manufacture of cotton and cottonseed products for a large part of the world's population. Instead of an 8,400,000 bale crop, as forecast for this season, four times that amount should be grown per year within two or three decades.

The growth in cotton production in the United States during the past forty years is indicated by the percentage of change from the previous five-year period for each of the five-year periods shown below:

| *Years* | | *Per cent* |
|---|---|---|
| 1881–5 | plus | 13.8 |
| 1886–90 | " | 20.5 |
| 1891–5 | " | 10.0 |
| 1896–1900 | " | 24.4 |
| 1901–5 | " | 7.6 |
| 1906–10 | " | 9.0 |
| 1911–15 | " | 19.1 |
| 1916–20 | minus | 15.7 |

For every quinquennial period except that of the Great War, there was a material increase in the amount of cotton produced in the United States, and it seems reasonable to suppose that that tendency will be resumed in the first five-year period after the war, notwithstanding the boll weevil and the program of cotton growing in the British Empire. For 1920 the production was well over 13,000,000 bales, while the five-year average, including 1920, was only 11,808,000 running bales. That the production will continue to increase at the rate of something like 15 per cent per quinquennial period seems likely. The annual average production was approximately 14,000,000 running bales for 1911–15,

and it should be, roughly, 16,000,000 bales for the next five years after this year. Even this allows for a loss of six years of growth, for the war, and the industrial depression following it.

### INCREASED PROFITS THROUGH BETTER COTTON

The growth of more and better cotton per acre and a larger crop in the South, seems to me the way out for the future. The South is tending toward diversified farming; but the uncultivated area is still large, and the production of cotton per acre can be doubled and trebled. Mr. David R. Coker has called attention to the larger profit from better cotton by a recent statement that during the past ten years Darlington County, S. C., has produced roughly 350,000 bales of staple cotton, which has sold for an average of 10 cents a pound above the price of ordinary upland grades, and resulted in a gain of $17,500,000 to growers of staple cotton in that county. He also states that only one per cent of the cotton marketed at Hartsville, S. C., during 1920–21 was short staple, that the growth of staple cotton has spread to adjoining counties, and that the crop of staple cotton for South Carolina in 1920 was approximately 150,000 bales.[1] It seems, therefore, that cotton growers can increase profits greatly by growing better staples of cotton. By the growth of wider varieties of cotton its uses can also be extended.

### CURTAILED OUTPUT THE INEVITABLE METHOD OF TEMPORARY ADJUSTMENT

While the growth of more and better cotton is the way out for the future, the immediate problems of readjustment have been met by an unprecedented reduction of 28.4 per cent in the acreage devoted to the cotton crop. It is necessary to compare the reduction of 1915 and 1892 to find figures at all comparable with the reduction in acreage in 1921. In 1915 the reduction was 14.7 per cent, and in 1892 it was 16.5 per cent. The reduction of 1921 was almost twice as large as the greatest previous reduction. The use this year of, roughly, only 50 per cent of the fertilizer consumed last year and only 45 per cent of that of 1914 is also wholly unprecedented. With favorable weather, a crop of ten million bales seems possible, but with a drought in Texas, a crop of 7,000,000 bales is also possible. By the reduction in the crop, the growers have made it possible to sell the remainder of the crop of 1920 and the new crop at higher prices than would have obtained if a larger crop had been grown. But if the scarcity of cotton during the next two years leads to a price above the cost of production, the higher price will stimulate the growth of cotton in the United States and other countries and will lead to keener competition from growers in foreign countries.

It would seem to be in keeping with the interests of the American growers if extremes could be avoided. If the present short crop should lead to 25 cent cotton, large production would follow, which would tend toward very low prices again. Nevertheless, growers have had little option in their reduction of this crop. The industrial depression lead to a reduction in mill consumption and a greater reduction in purchases by mills. Cotton was left in the hands of growers, and funds were not available for supplies for the crop of 1921. Even if they had been, the prices of supplies were not in alignment with the price of cotton. The grower neither had the money to purchase sup-

[1] Paper read by David R. Coker at World Cotton Conference at Liverpool, England, June, 1921.

plies nor could he afford to pay the prices prevailing.

The problem of readjustment of prices, rates and wages on a relative basis is perhaps the most difficult of the problems yet to be solved. Reduction in many prices and wages offer encouragement, but other prices, wages, and railway rates should be reduced in order to be in proper relation to cotton and cottonseed prices. Cotton prices are below the pre-war level, but freight rates and many wages are 100 per cent and more above the 1913 average. If freight rates are not reduced, the loss will be divided between the grower and the consumer, because railway transportation is largely monopolistic. But if wages and prices of farm supplies are not reduced to the proper relation with prices of farm products, farm products will eventually advance to a proper relation with wages and supplies. This result may be long delayed for a complete adjustment, but under the law of volitional competition it is finally inevitable. The sudden response of cotton growers to the conditions confronting them has been unprecedented, but even cotton growers are subject to economic laws.

### A Decreased World Supply of Cotton with the Prospect of Increased World Demand

An erroneous opinion concerning the world's stocks of cotton and the probable consumption during the next few years seems to be current. We have been told that the world's visible stocks of cotton were approximately 5,000,000 bales on July 31, 1920, but that they will probably be some 12 or 13 million bales on July 31, 1921.[2] With this statement it is interesting to compare the world's stocks of cotton as compiled by the Commercial and Financial Chronicle. The Chronicle shows that the visible stocks of July 1, 1920, were 5,422,916 bales and of July 1, 1921, 6,523,124 bales, or 1,100,000 bales more than for a year ago. There seems to be an increase in the invisible supply in the United States of somewhat more than 2,000,000 bales, but the total increase in the world's visible and invisible stocks during the past year seems likely to be less than 3,500,000 bales instead of 7,500,000 bales as some would have us believe. The United States crop of 1921 is now estimated at 8,400,000 bales, or almost 5,000,000 bales fewer than for 1920. If to this reduction a decrease in production of 2,500,000 bales in other countries be added, the decrease in the world's production will be 7,500,000 bales from that of 1920. It would also seem that as soon as the industrial depression passes its acute stage, consumption should increase materially and should probably be equal to the pre-war normal for the calendar year 1922. Cotton spindleage was greatly increased in countries other than Europe during the war, and European mills are tending toward normal factory consumption. The world is also rather bare of textiles, and it is believed that during the next two years even Central Europe will both manufacture and consume at least a pre-war normal amount of cotton textiles. The world's industry and commerce is going forward as soon as the unprecedented industrial readjustment has run its course. It is not war destruction in Europe but the industrial depression throughout the world that is curtailing manufacturing at present.

### The Way Out for Cotton Growers Lies in a Stabilization of Prices

It would seem, therefore, that the cotton growers have met their conditions in the only way they could—by

[2] Market Reporter, U. S. Dept. of Agriculture, Vol. 3, No. 5.

reducing the size of the cotton crop. Of course, this action will lead to gyrations in the cotton market, higher cost to consumers, waste to everybody, and the marking of time in industrial development. But such unprecedented general price declines as occurred during the past year can lead only to the cessation of industrial development. It is tragic that we have not learned to avoid such general price changes, but industrial stagnation and maladjustment inevitably follow such price declines. The cotton grower has restricted production as an emergency measure, but the permanent solution of his difficulties must come through a decline in prices of his supplies or an advance in prices of his products. A re-alignment of prices in proper relation must be accomplished. Whether farm products will finally be adjusted upward, or other prices, wages, and rates adjusted downward, depends largely on what the general price level, or the purchasing power of our monetary unit finally becomes, and this problem is now largely under the control of the central banking system.

The prices of agricultural implements and many other manufactured articles are still far above the level of prices of farm products, and especially of cotton and cotton seed. The average price of farm products, as reported by the Bureau of Labor Statistics for June, was only 13 per cent above the 1913 average, while the price of agricultural implements is more than double what it was in 1913. Cloths and clothing for May were 81 per cent above the 1913 average, fuel, 94 per cent, building materials, 102 per cent, and furniture and other house furnishings, 162 per cent. These prices must be reduced or prices of farm products will rise. The prices of both cotton and cotton seed are below the 1913 average. But if one may estimate the effect of scarcity on prices, it would not seem that either could long remain below the pre-war level while other prices remain so far above, especially if such shortage of cotton and cotton seed does occur as is now forecast.

The cotton grower has done what he can to re-align cotton prices in proper relation to other prices. He has succeeded temporarily, but the permanent solution must come through a readjustment of all prices on some level. At present that level seems uncertain. During the period of painful readjustment, a considerable portion of which seems to be in the future, higher prices for cotton must be paid; but when other prices become adjusted, cotton will again be produced at lower prices and in whatever amounts the world demands.

# The Automotive Industry

## A Study of the Facts of Automobile Production and Consumption in the United States

By F. R. Pleasonton

General Manager, Parish Manufacturing Corporation

THE development of automotive transportation has been an economic achievement without parallel in the history of industry. In twenty-odd years, since its modest inception in the late nineties, the automotive industry has revolutionized transportation on the highways, and has won, by merit of service, a position in the life of the nation, that is second only to steel.

It has created utility and conferred benefit beyond estimate of value in social betterment and economic service. It has developed natural resources and promoted the arts of manufacture. It has introduced standardization and stimulated the science of production. It has been a powerful servant in national defense. It enjoys a degree of popularity and sound good will that has never been experienced by any other industry. Directly and indirectly, it has supported the employment of 7,250,000 workers, and has become so closely woven into the fabric of our industrial life that its welfare involves to no small extent the welfare of the nation.

Boundless enthusiasm and optimism have played leading rôles in this spectacular development. The genius, endurance and tireless activity of an army of pioneers has conceived improvements, fostered progress in the technique of design and construction, created demand, established markets and laid the foundation upon which a giant industry has been erected.

At the conclusion of six years of unparalleled expansion and prosperity, the automotive industry, in common with all national businesses, is acutely depressed. A situation has been precipitated which must inevitably have developed as the industry approached maturity, but which might have been delayed and mitigated under more favorable circumstances. Its discipline might have been rendered less drastic if applied during a period of general prosperity and normal development, but it could not have been avoided or evaded under any circumstances.

## A Readjustment Period Inevitable

In all progress there must be periods for consolidation of gains, recognition of errors, recasting of policy and adjustment to controlling conditions. Whatever the normal evolution of the automotive industry might have been under other conditions, it is undeniably confronted today, not only by a temporary impairment of the purchasing power of its market, but also, and with compelling effectiveness, by obstacles of primary magnitude created by its lack of mature consideration and restraint during a period of abnormal extravagance.

In technical performance, the service rendered by the industry has been magnificent. In merchandizing, it has very badly overshot the mark.

Its position may not be lightly disregarded, for a major portion of national wealth is involved and the stagnation of the industry retards the general recovery of all business. When and under what circumstances and to what extent may the industry anticipate relief?

Undoubtedly a bright future lies ahead of the industry; perhaps not the pot of gold at the end of the rainbow, claimed by some, but certainly an adequate reward for service rendered.

## Revival of the Automotive Industry Dependent on Recognition of the Law of Supply and Demand

Resumption of general activity in the automotive industry is only partly dependent upon recovery of general business. A great task of reconstruction is involved, which depends primarily upon open-minded recognition of the existence and controlling effect of numerous complex economic factors which have been totally disregarded during the recent period of abnormal inflation, if considered at all, and, subsequently, upon the rational and courageous solution of the problems created by these underlying and limiting influences, which constitute the general situation confronting manufacturers and distributors today.

Perhaps the greatest problem in this

situation is that of self-education in primary economics. During the entire history of its development, the automotive industry has lived in a world apart, and constituted a law unto itself. A primary obstacle to its recovery will be the fact that a great majority of the personnel of the industry, particularly its distributors, cannot believe, or will not admit that the law of supply and demand has any application to control of expenditure of the funds necessary to create and maintain automotive transportation.

The industry must be made to realize that the power of self-assertion has its limitations, before appreciable recovery can be expected. It will recover and progress, not because the world owes it a living, but because, and not until, it accurately surveys its market, adjusts itself to a basis of operation that balances supply to demand and extends demand to maximum volume by creating an extension in the utility of its product. It cannot pull itself up by its bootstraps through optimistic publicity and misrepresentation, and will find it foolish and a waste of time to challenge facts.

There is so much of real worth in the service rendered by automotive transportation, that the executives of the industry will serve their own best interest by realizing the necessity for stripping it of obstacles that impede its progress. The industry itself should encourage and direct a searching examination of fundamentals, with willingness to be guided by sound diagnosis and to proceed with the least possible delay to the necessary adjustments of policy and method to the requirements of actual conditions, abandoning, if need be, the dream of world conquest, in order to minimize the accumulation of losses resulting from unbalanced production, misdirected distribution and idle excess investment.

A thorough survey will prove to be a task of no mean magnitude. It is totally beyond the scope of this discussion to attempt more than a brief analysis of average conditions affecting the industry as a whole. It is realized that the actual individual experience of any particular element of the industry will necessarily vary from general conclusions, but the grand total effect upon national economics will be determined by the average experience of the entire industry, and it is from this viewpoint that the subject is approached.

The progress of civilization has demanded automotive transportation. It has been supplied, and due recognition must be accorded to the excellence of the service rendered by the automobile, as well as to the marvelous growth of the industry. Sincere consideration for the welfare of the industry may dictate the kindliest expressions of good-will, and suggest telepathy instead of surgery, but its stability and prosperity will be determined by economic factors and not by aspiration.

### Actual Production Not an Index of the Potential Market—the Law of Balanced Consumption

However much the wish may be father to the thought, it would be a serious and disastrous fallacy to conclude that the volume of production reached during 1920 is in itself an index of the extent of the potential market. It is not a criterion by which the economic stability of the industry or the utility of its products may be gauged. A close comparative examination of the rate of consumption of wealth required to create and maintain automotive transportation in relation to the amount of wealth properly available for the purpose is also needed. Even then due provision must be made for an adequate prior distribution of the total annual production of wealth among

activities primarily essential to continuity of existence, comfort and protection.

The welfare and continued existence of society is dependent upon the extent of its production and the manner of its distribution of wealth. There must be a rational balance in the consumption of wealth, as it is distributed between essential and non-essential activities, and if there is to be continued progress in civilization, there must be conserved from current production a normal accretion of wealth to increase the total capital, with which future production and the promotion of public works may be increased. In other words, society would ultimately find itself unable to continue the purchase of unlimited quantities of vehicles if the diversion of labor and capital from essential production in order to create and maintain automotive transportation should constitute such a drain upon its resources of productive energy as to restrict the production and distribution of foodstuffs, clothing, housing and other similar commodities to the point of discomfort or abnegation.

The consumption of a previously acquired surplus may permit a temporary expenditure in excess of current income, but only to the extent of the surplus accumulated. Any excess expenditure impairs capital, and a heavy drain upon capital not only retards future development, but, if carried far enough, will restrict current production as well. Carrying this thought to its extreme limit, purely as an illustration for the purpose of this discussion, an indefinitely continued expenditure in excess of current production would result in the destruction of all capital and cause reversion to primeval standards of living and conditions of labor.

## The Standard for Gauging the Automotive Industry

It should be obvious, therefore, that the criterion by which stability must be gauged is the adequacy of the return to the capital invested in the industry afforded by such portion of the average annual production of wealth as may properly be available for the purpose, after due allowance has been made for essential expenditures and normal savings. The present inquiry is predicated upon an assumption of the accuracy of this proposition.

## Outstanding Facts of Production and Cost

Before proceeding with an analysis of the situation, it is of interest to estimate the magnitude of the industry. In 1920 its outstanding indices were as indicated in the table below.

It is of interest to note that the expenditure for automotive transportation is 15.4 per cent of the total annual production of wealth, and represents a sum 65 per cent greater than the amount needed to finance the government and the public debt.

The actual number of vehicles produced in 1920 was 2,205,197 and plant extensions under construction at the

| | |
|---|---|
| Wealth consumed by automotive transportation | $8,167,850,000 |
| Total annual production of wealth | $53,000,000,000 |
| Vehicles in operation | 9,211,295 |
| Mileage operated | 63,000,000,000 |
| Average cost per mile | 12.96 cents |
| Average cost per mile by public utility | 3.50 cents |
| Number of manufacturers | 320 |
| Number of distributors and service stations | 66,416 |
| Capital invested | $2,126,717,377 |

peak of the market, completed since August, 1920, have undoubtedly added sufficient capacity to provide for the production of a total of 2,500,000 vehicles per year.

## AN ANALYSIS OF COSTS IN TERMS OF FORD CARS

It may be granted that vehicles have been developed which function with every element of satisfaction, but before attempting to reach a conclusion relative to the extent of the demand for such vehicles, it is necessary to determine the least cost of operation of the most economical type produced, the amount of income which provides a margin sufficient to support this cost, the number of individuals possessing incomes equal to, or in excess of this limiting amount, the average life of such vehicles and the replacement requirements based on the assumption that every individual possessing sufficient income actually owns and operates a car. In addition to this replacement demand, allowances must be made for the use of cars by corporations, taxicab and bus lines, for the use of trucks and for the export of motor vehicles.

Excluding consideration of motorcycles, the least expensive type of vehicle in use in the United States is the Ford, or equivalent. At the 1920 level of prices, the cost per mile to operate a Ford, as it is used in agricultural districts, with maximum economy, is as follows:

| | |
|---|---|
| Depreciation | 1.26 cents |
| Tires | 1.29 " |
| Gasoline | 1.50 " |
| Oil | .15 " |
| Interest | .19 " |
| Maintenance | .32 " |
| Total | 4.71 cents |

Allowances for garaging and road maintenance, also insurance and drivers' wages have been omitted, as it is obvious that the farmer houses the vehicle in a barn, or lean-to shed that already exists for other purposes, and is subject to very moderate taxes, operates the car over roads which involve and certainly receive very little upkeep, does not insure the machine and drives the car himself.

This condition represents the most favorable assumption that can be allowed for the purpose of inquiry. Higher costs entering into calculations of volume would indicate a rapid curtailment in the extent of the potential market.

The average annual mileage per car derived from comparison of a total registration of 9,211,295 vehicles, with a total of 63,000,000,000 car miles per year, is evidently 6,840 miles per year, or 18.75 miles per day. These 6,840 miles at 4.71¢ = $322 per year.

## A FAMILY INCOME OF $2000 A YEAR IS THE LOWEST THAT WILL SUPPORT AN AUTOMOBILE UNDER PRESENT COSTS

The Savings Bank Association of the State of New York has made a very comprehensive series of budgets for individuals and families in different income classes, in which a normal balance between essential expenditures, non-essential expenditures and savings has been estimated. While the separate budgets do not in all cases show progressively increasing allowances with increase of income, this is undoubtedly due to transition from one set of psychological characteristics to others in families of different social standing, with correspondingly different view points in regard to essential standards of living.

It will be of interest to anyone desiring complete information relative to detailed distribution of expenditures in different income classes to refer to

these budgets. They are so voluminous, however, that it is beyond the scope of this discussion to present more than a sufficient excerpt from these budgets to establish a fair conception of the margin of funds available for advancement and recreation, after provision for necessary living expenses and minimum saving. The following tabulation indicates the amounts available for advancement and recreation, and includes allowances for travel, car fare, gifts, charity, club dues, personal taxes, dentists' and doctors' services, newspapers and magazines, education, entertainment and amusement.

"Operating" includes shelter, light, heat, fuel, housekeeping, supplies, water, telephone, domestic services, and laundry. "General" includes clothing, education, charity, amusements and health.

The National Industrial Conference Board quotes average expenditures for industrial families, as follows:

| | |
|---|---|
| Food | 43% |
| Shelter | 18 |
| Clothing | 13 |
| Fuel and light | 6 |
| Sundries | 20 |

The Guaranty Trust Company quotes a survey made in Philadelphia in 1918 covering the expenditures of 260 fam-

| Annual Income | Single Individual | Family of 2 | Family of 3 | Family of 4 | Family of 5 |
|---|---|---|---|---|---|
| $900 | 84 | ... | ... | ... | ... |
| 1200 | 132 | 84 | ... | ... | ... |
| 1500 | 180 | 132 | 132 | 84 | 48 |
| 1800 | 258 | 132 | 156 | 96 | 60 |
| 2100 | 300 | 204 | 180 | 120 | 84 |
| 2400 | 360 | 240 | 240 | 204 | 156 |
| 2700 | 540 | ... | 240 | 192 | 180 |
| 3000 | 615 | 360 | 300 | 240 | 240 |
| 3300 | ... | ... | 360 | 300 | 300 |
| 3600 | ... | 360 | 360 | 336 | 336 |
| 3900 | ... | ... | 360 | 360 | 360 |
| 4200 | ... | 504 | 456 | 480 | 480 |
| 4500 | ... | ... | 480 | 480 | 420 |
| 4800 | ... | 540 | 480 | 480 | 480 |
| 5400 | ... | 600 | 600 | 600 | 660 |
| 6000 | ... | 600 | 720 | 720 | 660 |

Babson reports the following distribution determined by the chairman of the National Budget Committee:

| Income | Food | Operating | General | Savings |
|---|---|---|---|---|
| $1000 and under | 30% | 35% | 25% | 10% |
| $1000–$2000 | 23% | 35% | 29% | 13% |
| $2000–$3000 | 20% | 34% | 28% | 18% |
| $3000–$4000 | 18% | 32% | 30% | 20% |
| $4000–$5000 | 16% | 29% | 29% | 25% |

ilies of five people each, with an average yearly income of $1262 as follows:

| | |
|---|---|
| Housing | 14.1% |
| Fuel, heat and light | 5.1 |
| Food | 44.1 |
| Clothing | 13.9 |
| Help | 2.6 |
| Furniture, etc. | 2.8 |
| Taxes, contributions, etc. | 2.0 |
| Recreation | 1.3 |
| Reading | 1.0 |
| Insurance | 3.2 |
| Car Fare | 2.5 |
| Cleaning, supplies and service | 2.6 |
| Miscellaneous | 4.8 |
| TOTAL | 100.0 |

The U. S. Bureau of Labor Statistics reports expenditures during 1918–1919 for families averaging 4.9 persons, with incomes averaging $1,434, as follows:

| | |
|---|---|
| Food | 38% |
| Shelter | 13 |
| Clothing | 17 |
| Fuel and light | 5 |
| Sundries | 26 |

In view of the foregoing, together with other similar data, it takes quite a stretch of the imagination to concede that incomes as low as $2,000 per year may provide a margin of 15 per cent or $300 per year for recreational purposes, but in order to make due allowance for the strong hold which the automobile has upon the affection of the public, and to present as favorable a case as possible for the industry, $2,000 per year is considered to be the lowest income that will support the most economical type of vehicle.

### THE SATURATION POINT UNDER PRESENT COSTS OF OPERATING CARS

Income tax returns indicate the following number of individuals possessing incomes of $2,000 and over:

| | |
|---|---|
| 1917 | 1,832,132 |
| 1918 | 2,928,998 |
| 1920 (Estimated) | 2,326,132 |

9

Assuming that prices and operating costs of automobiles shrink uniformly with wages, and that therefore the ratio between car registration for 1920 and the number of individuals with incomes of $2,000 or more per year, as a potential market, remains constant as the level of prices, costs and wages sinks back to pre-war conditions, we find the following general condition:

| | |
|---|---|
| Potential market for vehicles in private use | 2,326,132 |
| 1918 corporations | 317,579 |
| Taxicabs and busses (estimated) | 50,000 |
| Total normal registration of passenger cars | 2,693,711 |
| 1915 registration | 2,445,664 |

While it is entirely a matter of opinion, it is probably safe to assume saturation has not been reached for trucks, and that 1920 registration is a fair index from which to calculate replacement demand. 1920 registration for trucks is reported to have been 990,000. It is also fair to make the same assumption for export. 1920 distribution was as follows:

| | |
|---|---|
| Passenger cars | 141,477 |
| Trucks | 29,288 |
| TOTAL | 170,765 |

A very comprehensive survey by *Colliers Weekly* establishes the average life of an automotive vehicle at 5.1 years. National Automobile Chamber of Commerce figures check within 1.5 per cent. It is therefore safe to assume average car life at 5 years.

The annual demand for replacement is then:

| | | |
|---|---|---|
| Passenger Cars | | 680,219 |
| Domestic | 538,742 | |
| Export | 141,219 | |
| TOTAL | 680,219 | |
| | 679,961 | |

| | | |
|---|---|---|
| Trucks | | 227,288 |
| Domestic | 198,000 | |
| Export | 29,288 | |
| TOTAL | 227,288 | |
| Total of all vehicles | | 907,507 |

The total production of vehicles for 1920 shows the following distribution:

| | |
|---|---|
| Passenger cars | 1,883,158 |
| Trucks | 322,039 |
| TOTAL | 2,205,197 |

### OVER-PRODUCTION OF PASSENGER CARS

The normal demand for vehicles upon complete recovery is therefore apparently limited to:

| | |
|---|---|
| Passenger cars | 36% of 1920 production |
| Trucks | 70.60% of 1920 " |

It may be assumed that there is no appreciable excess of trucks. In the case of passenger cars, the situation is very different.

| | |
|---|---|
| 1920 Registration of passenger cars | 8,221,297 |
| Estimated normal registration | 2,693,711 |
| Excess | 5,527,586 |

The rate of retirement from service, based on 5 years life, and the assumption that all cars registered in 1920 have been kept in operation at the same average annual mileage, is:

| | | | |
|---|---|---|---|
| 1921 | 1,493,617 cars | 1916 | Production |
| 1922 | 1,740,792 " | 1917 | " |
| 1923 | 926,388 " | 1918 | " |
| 1924 | 1,657,652 " | 1919 | " |
| | 5,818,449 cars | | |

It would therefore appear that the market for passenger cars will be virtually nil until the fall of 1924, and that upon normal resumption at that time, the demand will not exceed 36 per cent of 1920 capacity.

The truck market should pick up, however, with resumption of general business, and reach 70.6 per cent of 1920 capacity.

Making no allowance for motorcycles, therefore, or for parts-manufacturers, distributors and service stations, approximately $628,600,000 excess investment will ultimately have to be liquidated.

This conclusion is based upon the assumption that no modification of design or construction is made in the type of vehicle produced by the industry. Due consideration should, however, be given to the possibility of extending the utility of the automobile through modifications improving its economy, which would naturally very rapidly expand its volume.

### POTENTIAL DEMAND UNDER REDUCED COST OF OPERATING CARS

For the purpose of inquiry, it is therefore in order to determine whether existing types of vehicles possess maximum utility, i.e., whether the net operating cost per mile has already been reduced to a minimum consistent with safety, comfort and performance. If the answer is affirmative, the situation offers no opportunity for improvement. If it is not, the doctrine of origin of species and survival of the fittest operating through unrestricted competition will result in modifications of design, selection and treatment of materials, and methods of construction that will produce vehicles which may be operated with maximum economy, at a price within the purchasing power of a sufficient number of individuals to insure a volume of production that will absorb a maximum proportion of the capacity of existing plants. This ultimate demand has its fixed limitation in the number of individuals possessing the amount of income at which the margin available for recreation disap-

pears. This occurs at approximately $1,000 per year.

There are approximately 6,000,000 individuals in the United States possessing incomes of $1,000 or more per year. On a five-year replacement basis, the maximum possible normal demand for passenger cars in private ownership then becomes 1,200,000 per year. The replacement of cars used by corporations, taxicab and bus lines amounts to 783,516, and export accounts for 141,477. The total distribution that could be attained at this absolute limit is then 1,414,477 vehicles per year or 75 per cent of 1920 production. This throws an interesting light on the amount of over-production at the recent peak of activity.

### AUTOMOBILE COSTS AS RELATED TO THE NATIONAL INCOME

In order to gain some idea of the extent to which present costs may be decreased, it is necessary to consider the distribution of items in the grand total annual expenditure for automotive transportation. The following tabulation sets forth an analysis of the total:

| | |
|---|---|
| Depreciation | $1,900,000,000 |
| Interest | 285,000,000 |
| Tires | 1,131,000,000 |
| Gasoline | 1,237,500,000 |
| Oil | 123,750,000 |
| Roads | 720,000,000 |
| Garaging (storage only) | 756,000,000 |
| Maintenance and supplies | 950,000,000 |
| Insurance | 329,000,000 |
| Drivers wages | 735,600,000 |
| TOTAL | $8,167,850,000 |

Analysis of the total annual production of wealth for 1920 shows the following distribution:

| | |
|---|---|
| Farm Products | $25,000,000,000 |
| Manufactured Products | 24,000,000,000 |
| Minerals, Timber, Fisheries, etc. | 4,000,000,000 |
| TOTAL | $53,000,000,000 |

It is of interest to visualize the extent to which labor is diverted from other channels of production to create and maintain automotive transportation.

All costs, in the last analysis, are accumulated wages. An analysis of the total expenditure shows:

Total annual expenditure, $8,167,850,000.

Average laboring rate—1920, 45 cents per hour.

Total expenditure then equals 18,150,000,000 man hours per year.

The average working hours per year of 313 days at 8 hours are 2504.

The number of workers in full time employment equivalent to total expenditure is 7,250,000.

In other words, it has required 7,250,000 workers continuously employed, to keep 9,211,295 vehicles in operation. There are approximately 46,400,000 wage-earners employed in the United States. Approximately 16 per cent, therefore, are diverted from other channels of production. If this number were engaged in the production of foodstuffs, clothing, etc., they would account for an increase of approximately 18.5 per cent in the supply of essential commodities.

It is of interest to consider the use of automobiles in relation to the growth of the two major fields of production —manufacture and agriculture. The value of the annual production of farm products and manufactured products at different periods is reported in the table on page 116.

The period 1880–1900 indicates a parallel rate of growth during the twenty years preceding the use of automotive transportation. During this interval the value of both agricultural and manufactured products approximately doubled. The period 1900–1920 indicates a widely discrepant rate of growth in the twenty years during which automotive transportation has been introduced. The value of farm

| Year | Farm Products | Manufactured Products |
|---|---|---|
| 1880 | 2,200,000,000 | 5,400,000,000 |
| 1900 | 4,400,000,000 | 11,400,000,000 |
| 1920 | 25,000,000,000 | 24,000,000,000 |

products has increased 5.7 times, while that of manufactured products has again approximately only doubled, in spite of the fact that the value of all vehicles, accessories and supplies produced is included in the total reported for manufactured products.

Assuming the rate of increase of value of manufactured products to have been the normal index for both periods in proportion to increase of population and per capita circulation of currency, and the same to have been true of farm products from 1880 to 1900, we may assume that a normal rate of growth would have shown a value of farm products for 1920 of $8,800,000,000. On this basis, we may consider approximately $16,200,000,000 to represent an abnormal increase and assume that the increased production has been made possible through the use of automobiles.

It is undoubtedly true that, owing to lack of facilities for transportation by public utility in outlying districts, the automobile has made it possible to extend the radius of agricultural cultivation to distances much further removed from centers of collection and distribution of freights, and of passenger transportation by public utility than would have been possible without this means of transportation. The National Automobile Chamber of Commerce reports 34 per cent of total mileage to have been in districts where there is no other adequate communication.

It is of interest to note that the type of vehicle absorbed by agricultural districts is the light economical car of the Ford class.

Assuming that half the total mileage is made by Fords in agricultural districts, which is generally conceded to be true, and that the mile cost of a Ford, as used by the farmer, is 4.71 cents, we account for $1,483,650,000 of the total expenditure for automotive transportation or 5.93 per cent of the wealth produced on farms.

By difference, we find a total expenditure of $6,684,200,000 in manufacturing and residential districts or 27.85 per cent of the wealth produced in factories.

If the use of automobiles resulted in enough increase in production to justify its cost, we should find an abnormal increase in volume sufficient to absorb the cost of automotive transportation in manufacturing districts. As has previously been demonstrated, this is not the case. There has been no corresponding abnormal rate of increase in the value of manufactured products. It is therefore undoubtedly true that automotive vehicles have not justified their use on economic grounds, outside of agricultural districts. Except in isolated cases, they exist only for convenience, flexibility in transportation and pleasure, and must properly be counted luxuries. The passenger automobile and in many instances, also, the truck, is therefore to no small extent chargeable with responsibility for increase in the cost of living, so far as this is affected by the cost of manufactured products.

On the other hand, it is apparent that automotive transportation in agricultural districts possesses distinct utility. The margin of excess produc-

tion of farm products attributable to the use of automobiles is wide enough to support its pro rata quota of heavier and more expensive vehicles, and it is of interest to note that the farmer has in recent years begun to buy higher grade passenger cars, and to use the finest trucks.

### CARS OF PRESENT TYPES TOO EXPENSIVE TO PERMIT DEMAND TO BE EQUATED WITH OUTPUT

In view of the foregoing, it is obviously true that the most economical cars possess distinct utility in but half the field of production and that, in general, existing types are still too expensive to be operated by a sufficient number of individuals to restore the volume required to absorb the capacity of the industry.

It has been shown that, at the extreme limit of normal demand for improved types, the total production would be limited to 75 per cent of 1920 capacity. This means that under the most favorable conditions competition will eliminate a sufficient number of the weakest manufacturers to aggregate a total capacity of 470,780 passenger cars and 94,751 trucks per year. If no improvement is shown in construction, the total elimination will be enormously greater. It is important to note that this condition can be offset only by increase of population and longer working hours and, as political pressure is being brought to bear to limit immigration and prevent lengthening of hours, the industry can anticipate no relief from external expansion of its market, but must rely entirely upon the efficacy of its own internal reconstruction.

As has been stated, only one condition can approximate maximum volume and that is the production of the least expensive and most economical cars. The manufacturers who survive the existing depression will be the ones who achieve this result.

### CAR DESIGN DEVELOPING IN WRONG DIRECTION

An examination of factors controlling price and economy in operation leads to the conclusion that a great deal may be accomplished in the way of improvement by reduction of weight to a minimum, by decrease of power to the normal requirements for propulsion at ordinary speeds, and by limitation of speeds.

These objectives, while accepted in principle, established in fact and widely advertised, have unfortunately not been generally applied in the practice of designing and manufacturing cars. An outstanding fact, attested by examination of specifications of current models is that 1921 cars are heavier, higher powered and operate at higher speeds than 1920 models—obviously a step in the wrong direction.

The curves on pages 118–124 are of interest in connection with an inquiry into the relation of weight to economy.

Commenting upon the extreme variation in prices and operating costs shown by these curves, it is of interest to note that the National Automobile Chamber of Commerce admits that lighter and more economical cars can be produced, and will be produced when it is necessary for the industry to do so.

The one outlet for excess capacity is through production for export. If we are manufacturing cars which are not sufficiently economical to warrant their indefinitely continued use in the United States, how can we expect to export them to countries where the cost of petrol is prohibitive, per capita wealth and income are so much lower and an adverse price differential has been set up against us by depreciated exchange?

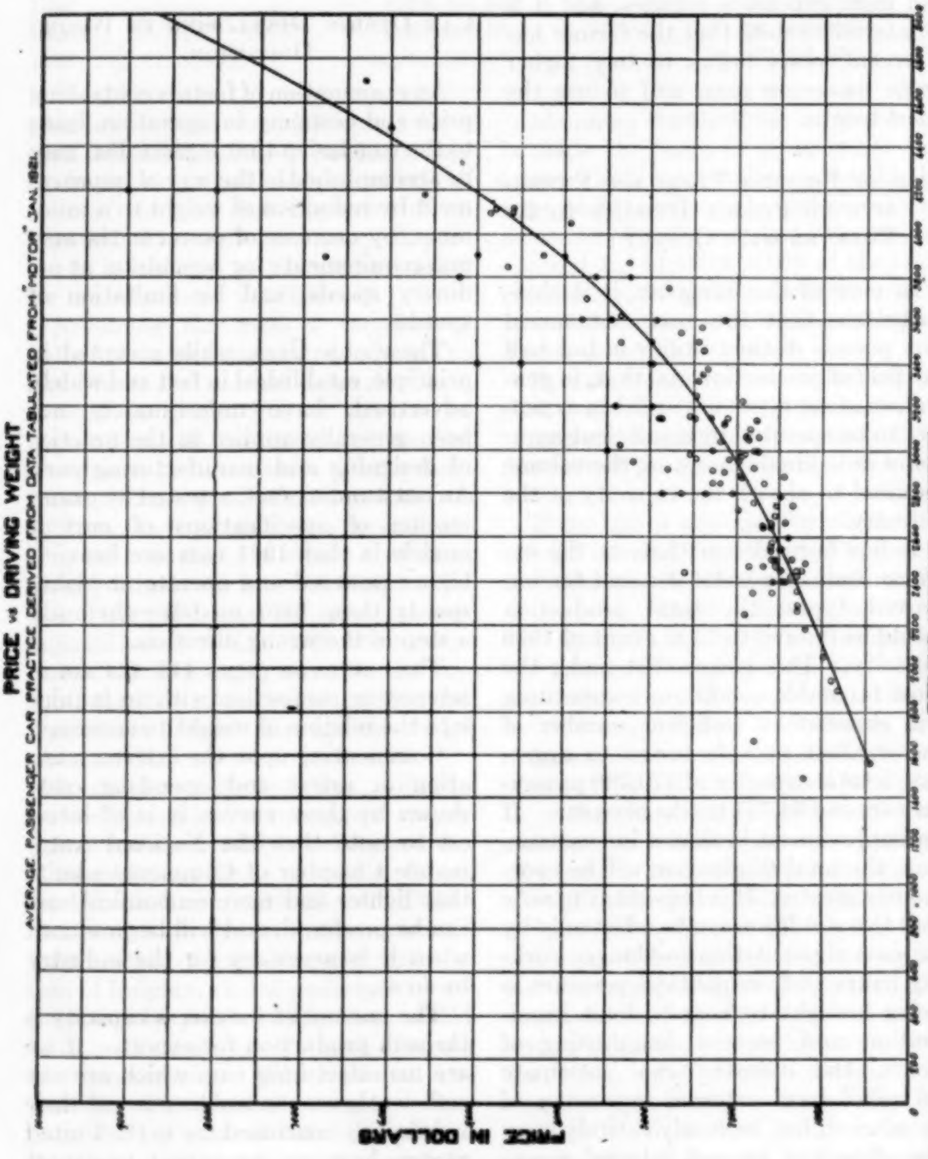


FIGURE 1

**In the weight range from Ford at 1,600 pounds, to average weights for other models 3,040 pounds, the variation of price with weight is approximately $1.00 per pound.**

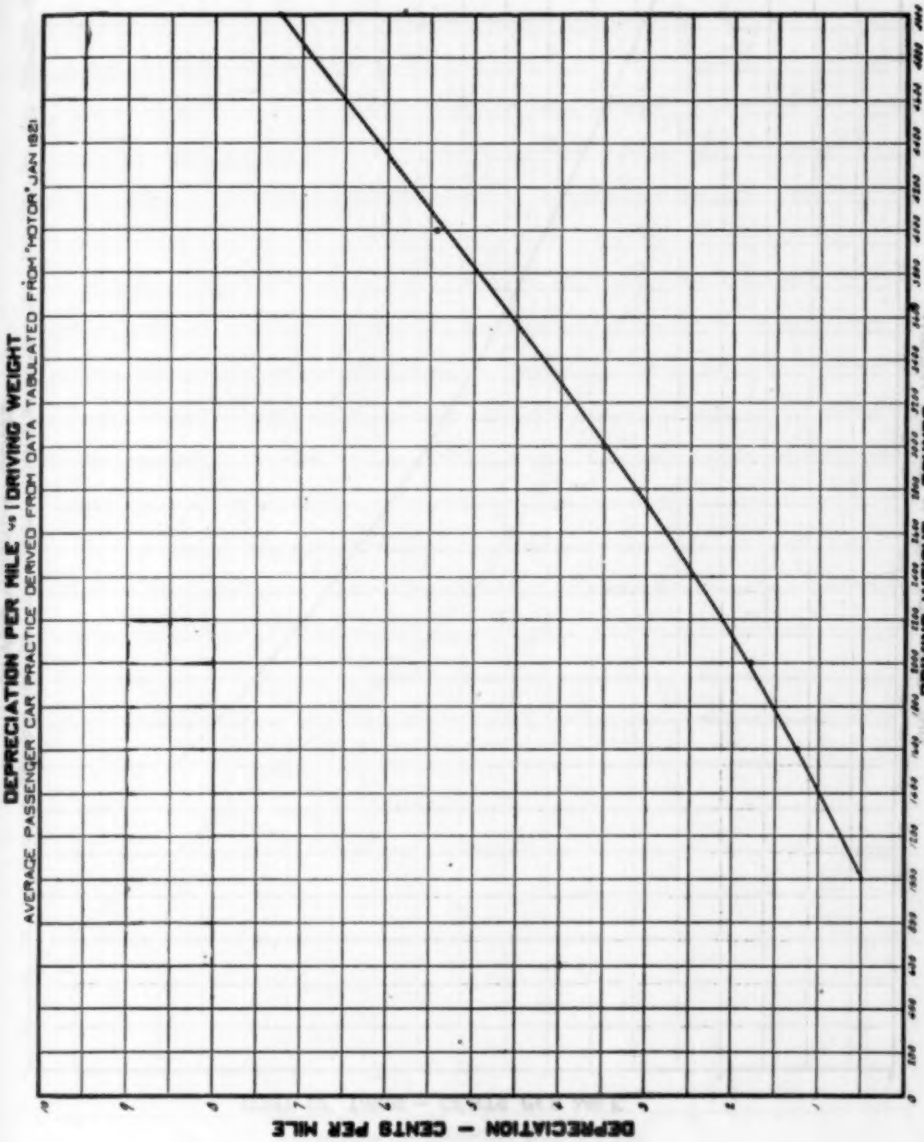


FIGURE 2

Based on 40,000 miles life of 1600 lb. car
50,000 " " " 2000 " "
60,000 " " " 3000 " "
80,000 " " " 4000 " "
120,000 " " " 5000 " "

**It should be noted that these mileages are extremely favorable to the automobile, actual mass total experience indicates an average life of 35,000 miles.**

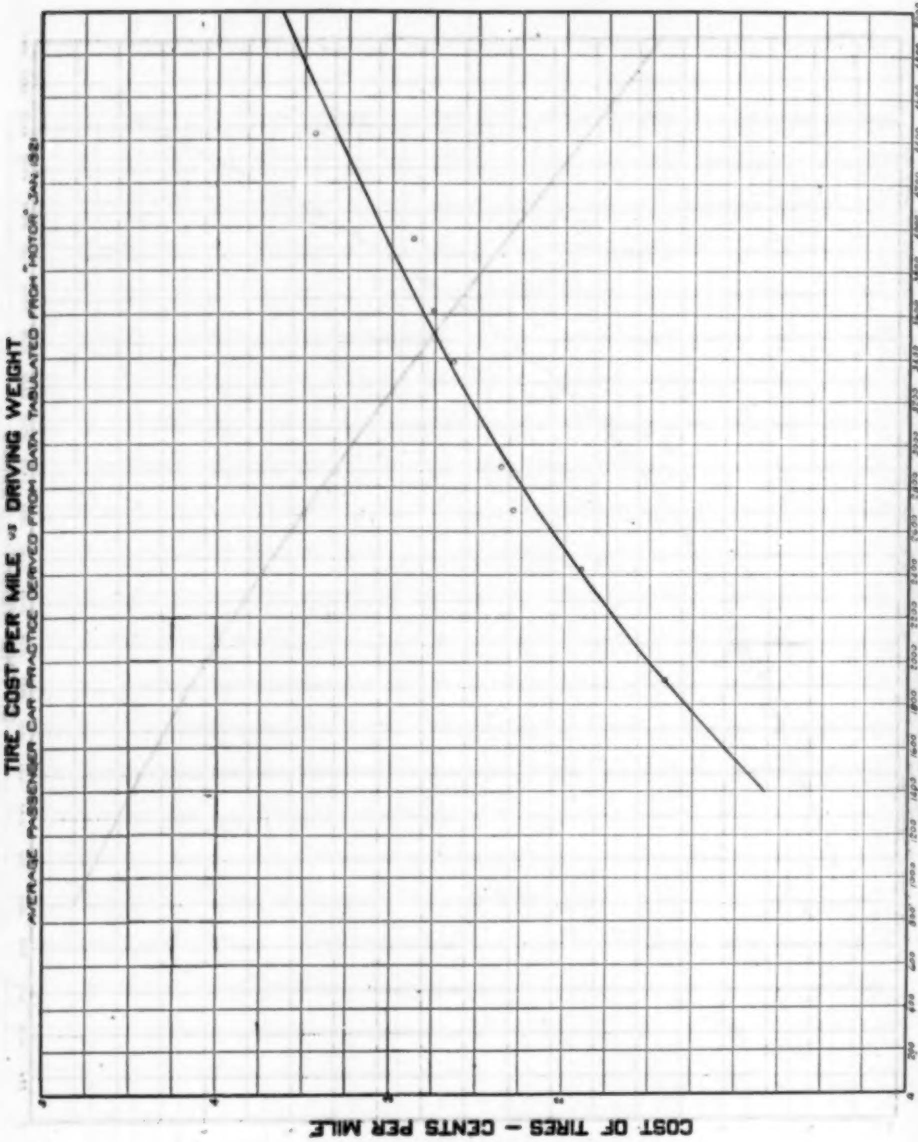


FIGURE 8

*Cost per Set*

| | | | | | |
|---|---|---|---|---|---|
| $90.20 | 30″ x 3½″ Fabric | 7 cars averaging | 1910 lbs. | 7000 miles |
| 108.60 | 32″ x 3½″ " | 10 " " | 2437 " | 7000 " |
| 222.60 | 31″ x 4 ″ Cord | 3 " " | 2355 " | 10,000 " |
| 230.20 | 32″ x 4 ″ " | 41 " " | 2696 " | " " |
| 237.40 | 33″ x 4 ″ " | 24 " " | 2889 " | " " |
| 263.00 | 32″ x 4½″ " | 29 " " | 2445 " | " " |
| 269.40 | 33″ x 4½″ " | 10 " " | 3240 " | " " |
| 276.40 | 34″ x 4½″ " | 12 " " | 3619 " | " " |
| 287.20 | 33″ x 5 ″ " | 7 " " | 3954 " | " " |
| 244.00 | 35″ x 5 ″ " | 9 " " | 4436 " | " " |
| | 35″ x 5½″ " | 1 car " | 4050 " | " " |

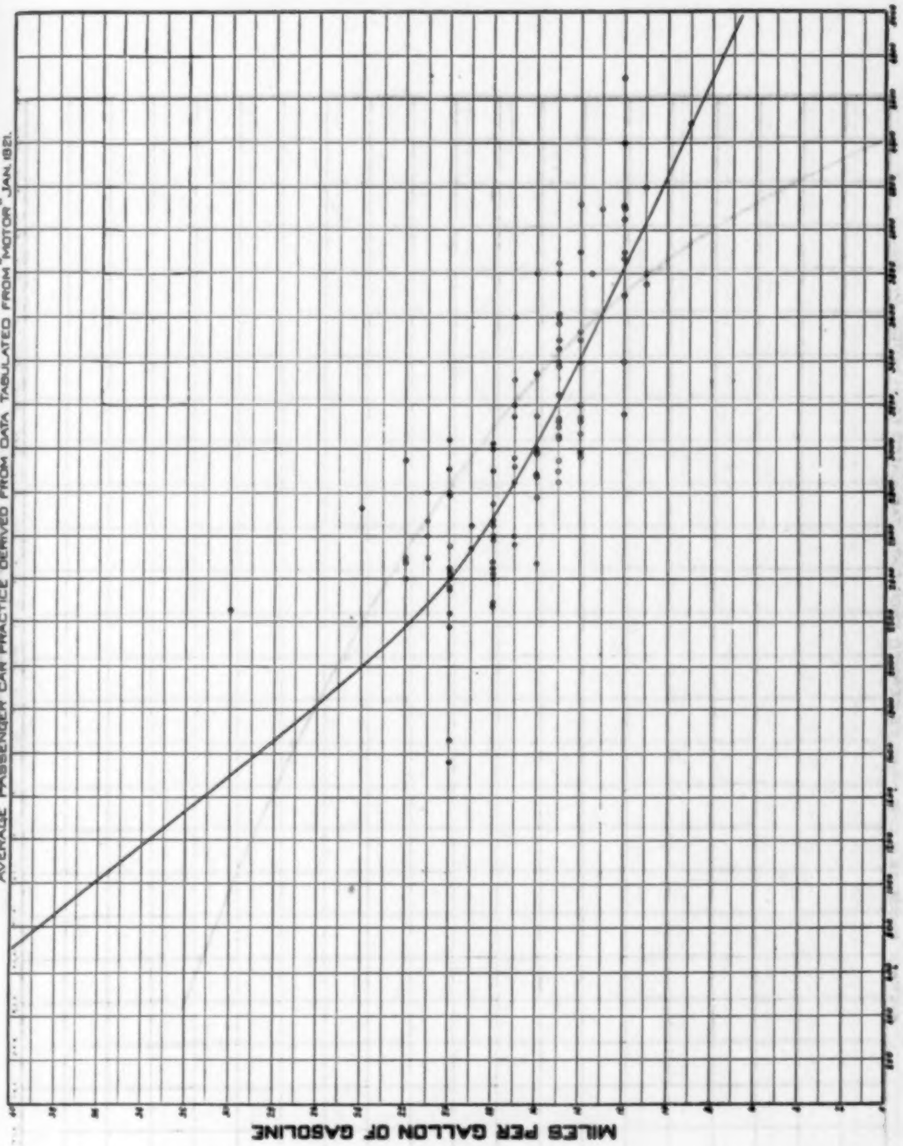


Figure 4

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 car | 1900 lbs. | 30 | miles to gallon | 10 cars avge. | 3028 lbs. | 16 | miles to gallon |
| 1 " | 2250 " | 25 | " " " | 20 " " | 3308 " | 15 | " " " |
| 1 " | 2730 " | 24 | " " " | 13 " " | 3342 " | 14 | " " " |
| 4 cars avge. | 2583 " | 22 | " " " | 1 " " | 3800 " | 13½ | " " " |
| 4 " " | 2643 " | 21 | " " " | 1 " " | 4100 " | 13 | " " " |
| 16 " " | 2473 " | 20 | " " " | 11 " " | 3936 " | 12 | " " " |
| 2 " " | 2595 " | 19 | " " " | 4 " " | 3990 " | 11 | " " " |
| 18 " " | 2613 " | 18 | " " " | 1 " " | 4490 " | 9 | " " " |
| 9 " " | 3016 " | 17 | " " " | | | | |

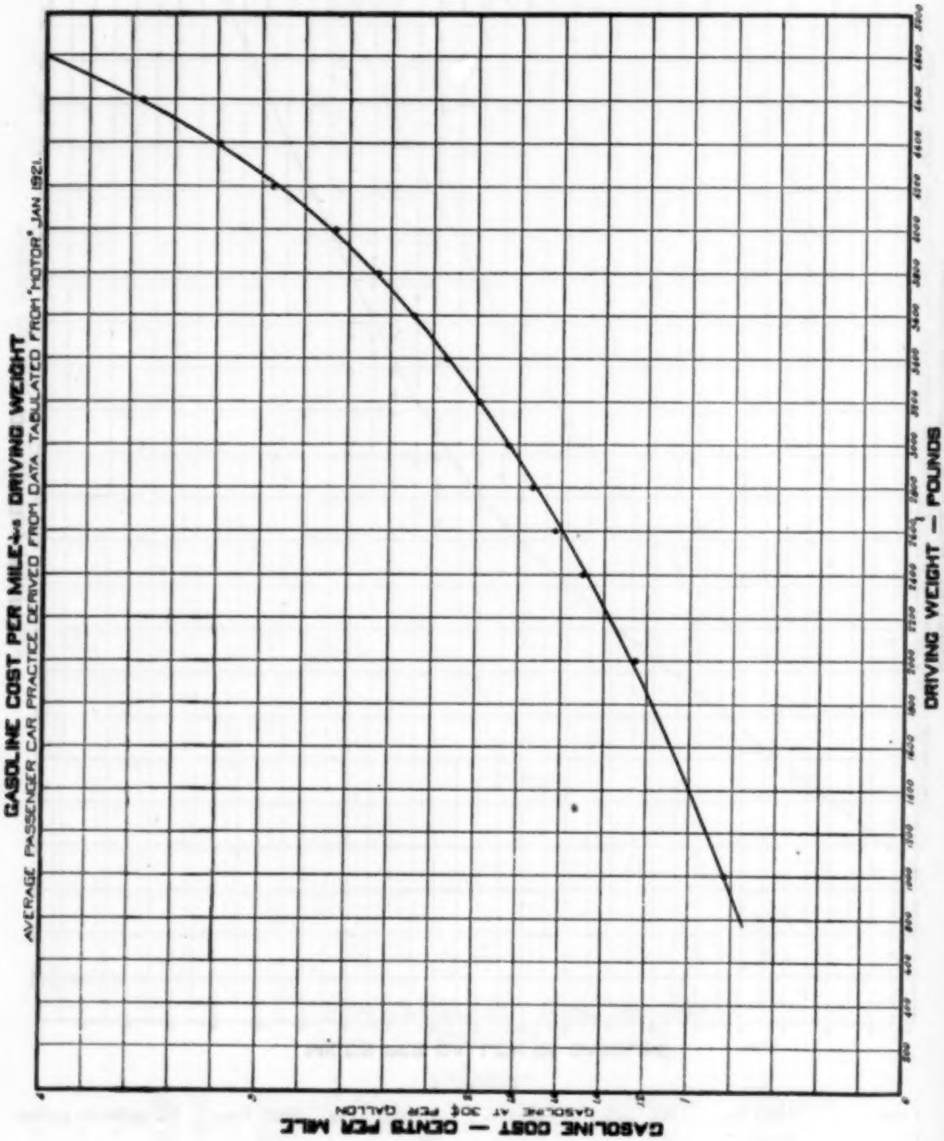


FIGURE 5

Derived from gasoline mileage vs. driving weight.

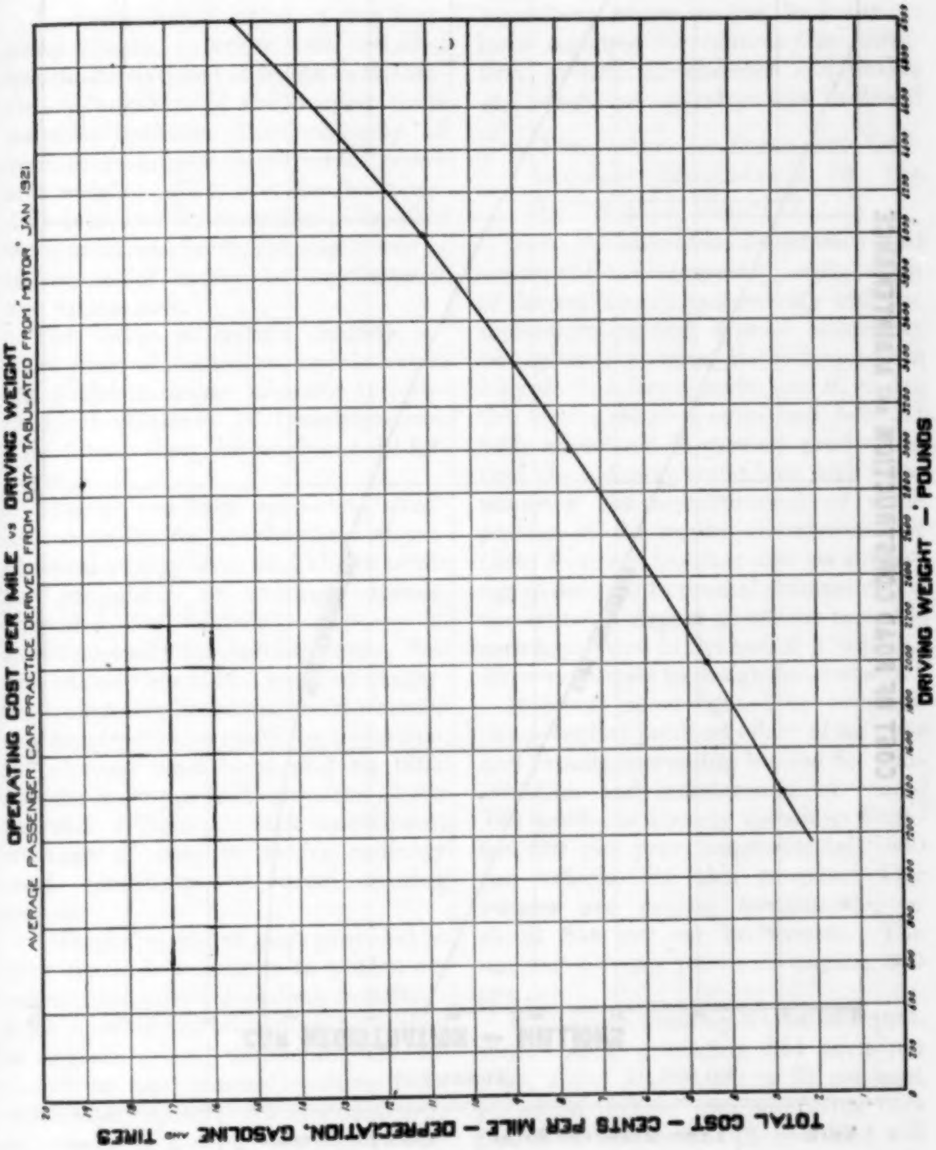


FIGURE 6

Summation of preceding curves.

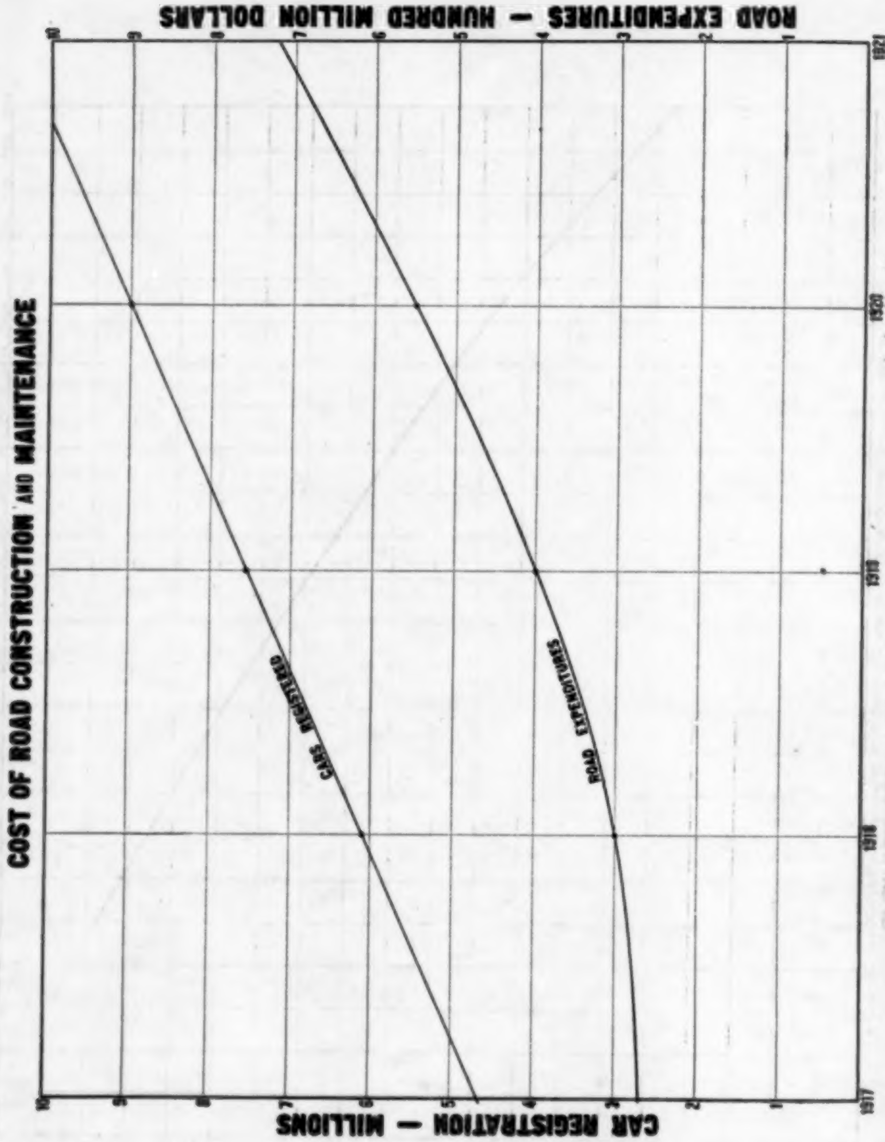


Figure 7

| Year | Expenditure for Roads | Cars Registered | Per Car |
| --- | --- | --- | --- |
| 1914 ............ | \$235,000,000 | 1,754,570 | |
| 1918 ............ | \$300,000,000 | 6,146,617 | \$48.80 |
| 1919 ............ | \$400,000,000 | 7,523,664 | \$53.20 |
| 1920 ............ | ........ | 9,211,295 | \$61.10 |
| 1921 ............ | \$720,000,000 | .... | \$70.00 |

### ECONOMY OF OPERATION SACRIFICED FOR POWER AND WEIGHT

A careful examination of the foregoing charts, together with detailed specifications listed at length in the statistical numbers of the leading trade journals indicates that economy of operation has been sacrificed for power and weight. First cost has been unduly increased by provision of detailed equipment and finish, tending toward a maximum of luxury in appointment and appearance.

The latter contribute entirely toward pride of possession, and do not in the slightest degree promote the mechanical efficiency of transportation. The former may be analyzed as follows:

"Power"—a large surplus of available capacity for development of mechanical energy over and above needs for propulsion at ordinary speeds. Provided for "pinch" purposes to avoid necessity for shifting gears. Excess utilized less than 1 per cent of driving time for extraordinary performance and acceleration in traffic, on bad roads, in informal road races and on hills. Results in 99 per cent operation at low thermal efficiency, with consequent wastage of gasoline under ordinary road conditions at usual touring speeds.

"Weight"—excess mass provided to give inertia in resistance to sudden accelerations and decelerations, contributing a sense of smoothness and stability in operation, and dampening the response to road shocks resulting from unnecessary speed. An expedient corrective for lack of driving skill in manipulation of clutch, accelerator, gear shift, and brakes, as well as failure to regulate driving speeds to road conditions.

While excess power and weight have contributed to spectacular performance and have assisted publicity in promotion of sales for a time, has not the question been begged? Would it not have been better in the long run to have designed for economy in operation, refined our clutches and brakes and taught car operators how to drive?

### THE POSSIBILITY OF INCREASED GOVERNMENT REGULATION OF THE AUTOMOTIVE INDUSTRY

Even if commercial expediency had warranted the temporary exploitation of the automobile as a novelty with the understanding that it must ultimately be expected to repeat the history of the bicycle on a larger scale, and if, under the circumstances, costs had been so fully amortized in current production that the industry could face with complacency the abandonment of some portion of its capital investments or their diversion to other uses on shrinkage of demand to normal volume, could the industry expect to escape compulsory legislation in the end, if it failed of its own volition to design for economy?

It seems short-sighted to overlook the potential political effect of an ever and rapidly increasing burden for construction and maintenance of roads. The public is already spending $720,000,000 per year, approximately $80 per vehicle, for this purpose. Car owners are paying $98,000,000, or about $11 per car in licenses. The non-car owning public is paying $69 per car.

With approximately 30,000,000 qualified voters, averaging $24 each per year, about 22,000,000 or 73 per cent of whom neither own nor drive cars but have to foot the bill, how long will compulsory legislation limiting vehicle weights and speeds be delayed? Road impact is most certainly a function of mass and velocity, and road failures are a function of impact. The conclusion is obvious.

### The Future of the Automotive Industry a Matter of the Survival of the Fittest

It would seem inescapable that the vehicles of the future as they evolve from present types in survival of the fittest will be those which furnish comfortable and safe transportation, with minimum cost per unit of service rendered, *i.e.* per passenger or ton mile, and the industry cannot count itself to be established on bed rock until this unit cost approximates the cost of equivalent service by public utility. It is true that some slight premium may be warranted for flexibility and privacy in the control of individual transportation.

It is also true that some individuals will always be able to finance the operation of a limited number of the most expensive and luxurious cars, and intermediate grades,—but the number of models and quantity of each which are produced will undoubtedly bear a fixed and definite relation to the number of individuals of higher incomes sufficient to support the cost of each such model.

It must also be conceded that, in some cases, service at any cost will warrant the use of the highest powered cars, in matters of life and death or protection, by physicians and hospitals, by fire and police departments and by the army, and also that cars of this character will be required for the transportation of mail and perishable goods, etc., but in general it can be conceded to be true that economy must be attained.

### Steps Necessary for the Revival of the Industry

On careful consideration, it would seem that the first great step forward toward economy can be accomplished by adjustment of the basis of distribution, so that the average commission on sales may be reduced from present figures, averaging 25 per cent to 30 per cent of list to a level more nearly commensurate with the fair cost of selling other commodities.

A second great step forward would be a change in service policy, so that the maintenance of cars in use might be handled promptly and efficiently on a narrow margin in order to encourage distribution instead of continuing service as a vehicle for an abnormal profit that will kill the goose that lays the golden egg.

Limitations of power and speed, decrease of weight and the general use of the highest grade of alloy steels throughout construction will lengthen vehicle life, decrease depreciation and minimize cost.

On the face of the situation, it would appear that the distribution of cars has been forced on an unwarranted basis, and that the industry has become very dangerously inflated. There are millions of cars in excess of normal requirements which will glut the market for months to come, until they are eventually worked out of service. Their existence will undoubtedly impede the sale of new cars through inability of distributors to finance "trade-ins" indefinitely, or to move used cars in the volume offered. The effect will be to depress or break prices and curtail production during a prolonged period, as previously estimated.

The surest markets and quickest recoveries should be experienced by a limited number of high grade cars, and by the most inexpensive and economical light weight vehicles. The intermediate group must look forward to a prolonged and difficult period of readjustment prior to recovery, with many instances of liquidation.

While it is possible and certainly highly desirable that an orderly readjustment may take place, with com-

binations and absorptions in which due regard is had to the respective equities of all interests involved, it is unfortunately highly improbable that this will be the case. It is practically certain that there will be the keenest competition for business, with ultimate survival by a relatively small group of large and aggressive manufacturers producing a limited number of models of light economical cars at low cost on a large volume basis, and a few small manufacturers producing a very limited quantity of high grade expensive cars.

It is most regrettable that so meritorious an achievement as the development of automotive transportation should have been marred by the misfortune of over-expansion. It is entirely natural that there should have been some lack of foresight. It is a trait inherent in human nature. The extent of its failure to perceive its limitations is the only criticism that may fairly be leveled at the industry, not its failure *per se*. To a considerable degree it should be recognized that the condition of unbelievable prosperity during the recent period of inflation unavoidably absorbed attention in matters of production and distribution to the exclusion of mature consideration and sound analysis.

To the end, therefore, that the stability and continuity of the automotive industry may be assured, that its investments may be safe-guarded and its personnel protected against deviations from normal progress, it is of fundamental importance that there should be an accurate determination of the market, adjustment of production to current demand, combination and consolidation of facilities for production, limitation of models for quantity production, redesign to promote simplicity and economy, recasting of distributing and service methods, reduction of prices to a minimum and an orderly and voluntary liquidation of excess investment.

If these things are not accomplished, the industry will be restricted by the effects of legislative regulation, limited by the purchasing power of the market, checked by bankers withholding funds needed for expansion in legitimate instances and embarrassed by their withdrawal of current outstanding loans until the total capital invested in the industry is balanced by liquidation to the normal requirement for curtailed production.

As a result of the process of elimination of the least fit in the unrestricted competition of a buyers market, the principle of marginal utility will establish the level of prices set by the weakest survivor, for the entire industry. These being necessarily low enough to maintain the distribution of the least desirable car, will curtail to a minimum the profit on sales experienced by the industry as a whole.

### CONCLUSION AS TO THE PROSPECTS OF THE AUTOMOTIVE INDUSTRY

In conclusion, it would seem that the automotive industry may anticipate recovery under the following general conditions.

*Passenger Cars.* Tapering increase from present volume to 36 per cent of 1920 production by fall of 1924. Low prices, narrow margins and heavy liquidation *ad interim*.

*Trucks.* Prompt recovery to 71 per cent of 1920 production upon resumption of general business. Close prices, moderate margins and appreciable liquidation in the interim.

*Parts, Accessories and Supplies* will follow trend of passenger cars and trucks.

The foregoing conclusions may be modified by the extent to which lighter and more economical vehicles are produced and distributing and service methods are modified.

# The Building Complex

By A. D. Welton
Continental and Commercial National Bank, Chicago

In common with all other industries that of building construction was influenced by the war. The demand for it found stimulation in the general business activity that accompanied expansion, but building materials were not the subject of priority orders and in 1918 the Secretary of the Treasury made an appeal to the public to stop all but necessary building. The diversion of building materials to war work had a pronounced effect, and credit for building, when not frowned on by any of the numerous war boards, was restricted by voluntary action of those in control of it, if not by the potential borrowers themselves.

## Price Vagaries

Prices for labor and materials went skyward with other prices and are coming down with even greater reluctance. Among the price index numbers building material is found to be one of the most industrious performers. In comparison with the all-commodities index number it moved up more slowly, but it kept on advancing after other prices had stopped and was exceeded only by house furnishing goods in the latest comparisons.[1]

At the time following the armistice, when a resumption of building might have been expected, the building material index number reached new high points. In January, 1920, it was 268, with all commodities at 248. In April, it was 341 with all commodities at 265, and when the latter reached its maximum of 272 in May, 1920, building materials stood at 341. It has receded slowly, reaching the low point of 202 in May last when the all-commodity number was 151. Only the number for house furnishing goods was higher.

[1] The Bureau of Labor Statistics index numbers of wholesale prices are cited.

## Analyses of the Building Situation

While the building material prices were making these records, building was almost at a standstill the country over. There were many surveys of the situation. The advance of rents to unprecedented figures called all kinds of legislative bodies into action. There were investigations, recommendations, suggestions, new laws, court proceedings, vast amounts of publicity, and defense organizations formed by tenants to combat the greed of profiteering landlords. The United States Senate appointed a "Select Committee on Reconstruction and Production" with Senator W. M. Calder, of New York, as chairman. This committee held hearings in different parts of the country, and submitted a report on March 2, 1921. The report is perhaps more interesting for its information than its conclusions and suggestions of remedy by legislation, and no small part of the interest is aroused by its dissonances rather than its consonances. This is not surprising. In such surveys there is always a pronounced tendency to confuse causes and effects and search for the former is likely to lead afield, especially when conditions are not yet settled. The report is none the less a very valuable contribution.

The New York Legislature appointed a committee to investigate the building situation. The Illinois legislature did likewise, and in both instances there was uncovered sufficient evidence of combinations in restraint of trade,

conspiracies, agreements, bribery and collusion, to warrant criminal indictments and in some instances convictions have already been secured. Material men, contractors and labor leaders were involved and the investigations have not been completed.

### Building Deterrents

Even cursory examination of the building situation will disclose that it was influenced by the many factors that entered into the general dislocation. Attempts to attribute conditions to any one cause must fail, and the application of any one remedy would fail as decisively.

Wages, their increase and stubborn maintenance at the high level, have been frequently given as the one or chief deterrent to new building enterprises. It has been one deterrent, of varying force in different communities, but it has probably been no greater a deterrent than labor inefficiency, which cannot be expressed in terms of dollars.

The price of building materials has been a deterrent but price at times was no more effective to stay the desire to build than scarcity of materials. Senator Calder's committee went beyond the question of the price of materials in the effort to find causes. It fixed on coal, coal mining and coal distribution, as a fundamental cause of the high price of building materials, with transportation, and its cost and inefficiency, in second place, and the direction of credit, in third. Coal is placed as the great sinner. For a time it pushed everything else off the railways. It sought and received, or was naturally given priority while building was under the war ban. Coal was gambled in, held back, made short by strikes, stored in cars that could have been used for other purposes, and finally was bid up to a figure that found reflection in the price of building materials, like lime, brick and cement.

However, in the same report, it appears that subsequently coal was plentiful, if not cheap, that there were many thousands of idle cars, that the consuming public was all but tearfully asked to buy immediately, and still building materials were high and building lagged. But coal and its carriage must be given position as a contributing cause to the failure of a resumption of building.

In the enumeration of causes of the building slump, the bankers came in for frequent and vigorous denunciation for withholding credit. The Federal Reserve insurance companies which make mortgage loans were pilloried, and the builders and real estate operators seemed to take particular joy in hammering these forces.

### Building Shortage Real

The definite information to be gained from study of the current history of building construction is that there is a shortage of building the country over. At the time this is written, the shortage is finding little to alleviate it.

Building is gaining a little everywhere in comparison with the duller periods, but generally construction work is waiting for release from the domination of prices that are still high, and conditions that make for costs beyond the probable replacement value two or three years hence. Money which goes into the construction of buildings is returned slowly. The investment is usually amortized over a long period of years. When there is prospect of a fall in wages or materials, building becomes a highly speculative adventure. The building of today will have to meet the competition of the new one built tomorrow with cheaper materials and

labor. If it does meet that competition, part of the money used for its construction must be charged off as loss. The value must be written down to meet the new scale of price and wages.

Various estimates of the building shortage are current. At the annual convention of Real Estate men in Chicago in July, Herbert Hoover said:

I need not recount to you that the cause of this critical problem has been the diversion of our economic strength from permanent construction to manufacture of consumable commodities during and after the war. In 1910 we averaged about 110 families for each 100 homes and in 1920 about 117 families. This indicates a shortage of nearly 1,500,000 homes even on the 1910 standard.

Mr. Hoover also asserted that 60 per cent of the population is living as tenants, which he considered too large a proportion for social safety.

The building shortage is real. The best and most recent study of it is that of Mr. A. G. Wheeler in the *Bankers Economic Service* (Special Analysis June 21 to July 12.)

Mr. Wheeler explains this table as follows:

"We see that during the twelve-year period beginning with 1909 and ending with 1920, only three years show a surplus of relative volume over normal building operations, while nine years show a deficit; and that the final result is a net deficit of $2,884,600,000 in relative volume. This amount, then, expresses the relative shortage of

TABLE I—BUILDING OPERATIONS IN THE UNITED STATES FOR THE PERIOD 1909–1920*

| *Year* | *I* *Population of the United States in Thousands* | *II* *Total Expenditures in Thousands of Dollars*[1] | *III* *Index Number Building Materials Group*[2] | *IV* *Relative Volume of Building in Thousands* | *V* *Relative Normal Volume of Buildings*[3] *in Thousands* | *VI* *Relative Surplus or Shortage in Thousands* | *VII* *Relative Volume Per Cent of Normal*[4] |
|---|---|---|---|---|---|---|---|
| 1909.... | 90,812 | 1,122,500 | 96 | 1,169,000 | 1,056,300 | + 112,700 | 111 |
| 1910† ... | 91,972 | 1,075,300 | 100 | 1,075,200 | 1,069,700 | + 5,500 | 101 |
| 1911.... | 93,708 | 1,050,500 | 100 | 1,050,400 | 1,089,900 | — 39,500 | 96 |
| 1912.... | 95,157 | 1,101,100 | 98 | 1,123,500 | 1,106,700 | + 16,800 | 101 |
| 1913.... | 96,509 | 1,016,600 | 99 | 1,026,900 | 1,122,400 | — 95,500 | 91 |
| 1914.... | 98,289 | 921,000 | 96 | 959,400 | 1,143,100 | — 183,700 | 84 |
| 1915.... | 100,041 | 965,800 | 93 | 1,038,500 | 1,163,400 | — 124,900 | 89 |
| 1916.... | 101,091 | 1,140,300 | 100 | 1,140,300 | 1,175,600 | — 35,300 | 97 |
| 1917.... | 102,228 | 819,200 | 124 | 660,600 | 1,188,900 | — 528,300 | 55 |
| 1918.... | 103,466 | 496,500 | 151 | 328,800 | 1,203,300 | — 874,500 | 27 |
| 1919.... | 104,519 | 1,505,300 | 192 | 784,000 | 1,215,500 | — 431,500 | 64 |
| 1920† ... | 105,683 | 1,607,800 | 308 | 522,600 | 1,229,000 | — 706,400 | 42 |
| | | | | | | —3,019,600 Average, 79% | |
| | | | | | | + 135,000 Shortage, 21% | |
| | | | | | | Relative Shortage, 2,884,600 | |

* Base 1909–13.

† U. S. Census. Other years estimated.

[1] Corrected to equal 286 cities in each instance.

[2] U. S. Bureau of Labor Statistics.

[3] The per capita average (1909–13) applied to the population's growth.

[4] Decimals omitted.

TABLE II—SHORTAGE BY YEARS

| | *Relative Amount* | *Per Cent of Total Shortage* |
|---|---|---|
| 1914 | $183,700,000 | 6.37 |
| 1915 | 124,900,000 | 4.33 |
| 1916 | 35,300,000 | 1.23 |
| 1917 | 528,300,000 | 18.31 |
| 1918 | 874,500,000 | 30.31 |
| 1919 | 431,500,000 | 14.95 |
| 1920 | 706,400,000 | 24.50 |
| Total | $2,884,600,000 | 100.00 |

SHORTAGE BY GROUPS OF STATES

| | *Relative Amount* | *Per Cent of Total* |
|---|---|---|
| New England | $336,921,000 | 11.68 |
| Eastern States | 1,255,378,000 | 43.52 |
| Southern States | 190,095,000 | 6.59 |
| Middle West | 234,518,000 | 8.13 |
| Western States | 279,518,000 | 9.69 |
| Pacific States | 588,170,000 | 20.39 |
| Total | $2,884,600,000 | 100.00 |

TABLE III—RATIOS OF BUILDING OPERATIONS BY CITIES, 1909–1920*

Per Cent of Normal
(decimals omitted)

| Year | *New York* | *Chicago* | *Philadelphia* | *Detroit* | *Cleveland* | *St. Louis* | *Boston* | *Baltimore* | *Pittsburgh* | *Los Angeles* | *San Francisco* | *Buffalo* | *Milwaukee* | *Washington, D.C.* | *Newark* | *Cincinnati* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1909 | 134 | 104 | 116 | 88 | 85 | 127 | 84 | 88 | 126 | 68 | 134 | 99 | 98 | 122 | 114 | 88 |
| 1910 | 99 | 104 | 96 | 92 | 84 | 99 | 91 | 98 | 99 | 98 | 93 | 85 | 78 | 99 | 101 | 93 |
| 1911 | 91 | 110 | 100 | 89 | 99 | 94 | 108 | 98 | 84 | 96 | 87 | 94 | 97 | 115 | 81 | 135 |
| 1912 | 104 | 92 | 93 | 111 | 103 | 104 | 120 | 104 | 81 | 123 | 99 | 117 | 123 | 103 | 86 | 97 |
| 1913 | 72 | 90 | 95 | 120 | 129 | 76 | 97 | 112 | 110 | 115 | 87 | 105 | 104 | 61 | 118 | 87 |
| 1914 | 62 | 85 | 87 | 105 | 145 | 64 | 138 | 108 | 132 | 60 | 114 | 95 | 79 | 60 | 73 | 90 |
| 1915 | 79 | 100 | 99 | 115 | 173 | 58 | 167 | 113 | 106 | 40 | 57 | 106 | 89 | 78 | 59 | 153 |
| 1916 | 92 | 106 | 114 | 158 | 158 | 59 | 144 | 110 | 94 | 44 | 69 | 107 | 112 | 91 | 64 | 109 |
| 1917 | 34 | 47 | 62 | 92 | 113 | 42 | 98 | 69 | 62 | 37 | 46 | 68 | 64 | 61 | 50 | 84 |
| 1918 | 15 | 20 | 22 | 32 | 48 | 19 | 26 | 25 | 34 | 15 | 21 | 36 | 21 | 27 | 23 | 30 |
| 1919 | 54 | 48 | 74 | 111 | 104 | 48 | 62 | 112 | 50 | 37 | 28 | 52 | 69 | 59 | 69 | 56 |
| 1920 | 37 | 21 | 38 | 61 | 89 | 21 | 46 | 67 | 34 | 47 | 30 | 32 | 31 | 34 | 42 | 38 |
| Shortage† | 27 | 23 | 17 | 3 | 1 | 34 | 2 | 8 | 16 | 36 | 28 | 17 | 20 | 24 | 27 | 12 |

* Base 1909–13 = Hypothetical Normal.

† Accumulated Shortage for the entire period.

building in 286 cities of the United States, although when the amount is released from its subjection to the price level[2] it becomes $8,884,568,000 which states it in the terms commonly used; the real shortage, however, is expressed by the previous figure."

"The ratios of building operations given in the table,"[3] says Mr. Wheeler, "show the per cent of normal building attained each year. Normal is, of course, hypothetical, and in the present instance is arrived at by using the average of the five-year period, 1909–1913, as a base from which to draw the volume of building per capita for a representative period. This per capita amount is then applied to the population's growth at the various points each year to date."

### Housing Shortage the Chief Irritation Point

Mr. Wheeler gives definite information. It compels the conclusion that much building is required to bring conditions to normal everywhere. Normal, however, is a hypothetical term, as Mr. Wheeler points out. The tables show that there is a tendency to overbuild which becomes strongly pronounced at times. Building, also, is a general term. It includes many structures besides residences. It is the lack of residential buildings which has caused most of the discussion. It is the shortage of these that has opened the way for the increase of rents. These increases fell with the greatest force on the people least able to bear them. The hardships that followed were very real. The rent profiteers were unpopular. They were openly taking advantage of the situation. Not only were rents enormously increased, especially in the large cities, but every effort was made to compel the signing of long-term leases at the advanced rates. The outcries were long and loud. Thousands of plans were offered as a means of aiding tenants and punishing landlords. There were some new laws and some restraints in the enforcement of old ones but, generally, the law afforded scant relief. It probably was less effective than the publicity. Interference with the rights of owners of property is very difficult in this country of Anglo-Saxon institutions.

There were elements in the situation, even at the stage of its acuteness, which showed the futility of the effort to adapt permanent remedies to a transitory case. In New York, for instance, a survey showed that there were thousands of buildings unoccupied. They were devoid of conveniences and no one seemed interested to live in them. In Chicago there were always vacant tenements. The people, however, had been prosperous. Wages were high, money was plentiful, and, with characteristic American desire, the demand was for dwellings and apartments equipped with all manner of modern conveniences. There was a steady movement from old buildings to new or better ones so long as any were obtainable.

### The Lag in Home Building Transitory

A notable feature of any movement for business expansion is the position of real estate and building in the scheme which involves increasing activity in all lines of business over a considerable period. Real estate seems always to be last to feel the influence of such a general movement. It is equally slow to respond to the change downward in activity. The reasons are not difficult

[2] With the change in the index figure found in column III there will be change in the dollar enumeration of the building shortage. This, however, will not account for the various estimates of the shortage which appear from time to time. They are mere guesses.

[3] Table III.

to find. A new home, or a new or additional business structure, is a consequence of prosperity—of the capacity to pay for it. Dwellings, whether detached or in apartments, are not subject to sudden changes. They are occupied by the owners or are under lease, and changes of occupancy are infrequent. A change in business conditions must be of some duration before its influence is exerted to affect a position so permanent. Once a new adjustment has been made, however, a similar degree of permanency halts the change. A lag in building construction, particularly of homes, might be expected for these reasons, but the regular procession of economic depression is lowering of prices, slowing up in volume of production and consequent reduction in the amount of capital needed. This brings a fall in interest rates. There is every reason for believing that this is now in process and presently interest rates will be within reach of the home builder. Moreover, capital in times of depression becomes timid, and real estate mortgages are the recourse of the timid investor.

### LOCALIZED CONGESTION AND HIGH RENTS WILL YIELD SLOWLY

Study of the Wheeler tables seems to show that the accumulated shortage of buildings is not everywhere so serious as in some particular places. If the Hoover statement is correct and there has been an increase of only seven families for each hundred dwellings, neither morals nor health are in serious jeopardy. The increase of seven families is, however, not evenly distributed. That average means a menacing and intolerable congestion at many points with incapacity to pay as the cause, and an annoying congestion at other points with the desire of many people to live in the same section or neighborhood as the cause. This is a common American trait comparable to the common desire to ride on the same train, or boat, or street car on which everyone else also desires to ride.

It will be noted that the accumulated shortage in Detroit and Cleveland cannot be serious in terms of present day conditions of prices and the necessity for national economy, but the shortage is everywhere serious in view of the increase of rents. Until the point of saturation of the building market is reached, rents will yield slowly and rents are too high. The return on new building investments is high and the return on old ones is out of all proportion to a fair profit. The rental yield is also out of proportion to the return on other investments. Under other less trying conditions this should draw funds toward building and ultimately work toward the new level. But prices and conditions in building have not yet been adjusted to permit more than a small beginning.

There are other factors at work. The movement cityward, so pronounced when factories were crying for labor at high wages, has been stopped or reversed. When automobile production was at its peak in Detroit in 1919–1920, there were more than 20,000 deserted farms in Michigan. The migration of negroes from the South to northern cities, caused great disturbance in residential districts of the latter. Many of the negroes have returned to their former abodes.

"For rent" signs began to reappear months ago in many cities. There has appeared a tendency for conditions to right themselves so far as is possible without the ordinary amount of building. In this respect then, at this time building is in the same position as everything else. The desire of all business men is to do business. The discovery of a remedy to aid or hasten the

work of ordinary economic forces is, then, important. This is the problem to which Congress, the Administration and innumerable organizations and individuals have addressed themselves.

### Building Nostrums

As the causes for building inertia consequent on the war disappear, and building is not resumed or is resumed very slowly, new causes are assigned. These causes vary according to the whims or predilections of their proponents.

Before the National Convention of Real Estate Men in Chicago in July, Senator Calder gave final and particular stress to the lack of credit—to the unwillingness of bankers to make advances for building purposes. He abandoned coal, and railroad rates and other causes previously assigned. Scant attention was given to the reports of the legislative committees in New York or the proceedings in Chicago. The influence of illegal combinations of builders, price fixing, collusive bidding and distribution of contracts, and other dark methods was largely ignored. Labor, guilty of a very similar policy on the part of its leaders, was given a position of less influence on building than that of the bankers.

As is customary in such cases, the remedy for this dereliction on the part of the bankers was an amendment to the Federal Reserve Act. The Federal Reserve System is the port of call of all financial ships in distress. Senator Calder's discovery that national banks have two billions in savings deposits, of which only eight per cent is invested in real estate mortgages, is the foundation on which he bases his plea for an amendment to the Reserve Act giving the Reserve Board power to authorize the investment of the savings deposits of national banks in long term securities.

The allegation that the banks have not been making real estate loans is true in large measure. Money has been neither plentiful nor cheap for a long time. But bankers who have customarily made loans on real estate security have not been refusing loans. In many large cities money has been available for building. It may be mentioned that in Chicago several banks have been advertising for some months that they had funds for that form of investment. Similarly, there has been constant advertisement both in New York and Chicago of bonds secured by real estate mortgage. Undoubtedly, the banks so advertising make only conservative loans and are not interested to lend for construction purposes on a basis of repayment in "installments like rent."

However, a first hand investigation disclosed that even when the outcry against high rents was shrillest, the demand for real estate mortgage loans on terms that met the requirements of conventional safety was small. One large Chicago bank reported two applications for such loans in seven months, and made both. There was at the same time from its customers a demand for mortgages as investments which could not be satisfied. Similar reports came from other institutions, and from other cities.

On the other hand, it was possible to find hundreds of persons who not only wished to build but were waiting for better prices and more favorable conditions. Architects everywhere had pending orders. In the aggregate, there were hundreds of millions of dollars waiting until prices and conditions were favorable. These hundreds of millions are still waiting.

### The Federal Reserve Act—a Cure-all

It remains only to discuss the probable influence of the proposed amend-

ment to the Federal Reserve Act on building, and otherwise. The present law permits national banks to lend a part of their time or savings deposits on farm mortgages or on real estate. That provision of the law was acceded to by its framers with great reluctance. Its supporters were ardent in their claims that such a provision would be most helpful to those desiring to build or buy homes. Its effect has been negligible. Theoretically, at least, the national banks are commercial banks. Their managers are not familiar with real estate mortgage technique. A commercial banker has an habitual horror of mortgages. Probably he should have.

Worse even than high rents or a shortage of homes would be an invasion of the integrity of the commercial banking system. Loans on farm or real estate mortgage should never have been mentioned in the Federal Reserve Act. To broaden the application of the existing provision is fraught with danger. The error of permitting national banks to do a savings business is becoming apparent. The abolition of that privilege would be a more pertinent recommendation than permissive or compulsory loaning of the savings deposits in large proportion on land mortgages.

### CREDIT ONLY ONE ELEMENT IN A COMPLEX SITUATION

It is doubtful if easy credit would prove a stimulant to building so long as other conditions remain as they are. Interest rates have been high for many reasons. Americans have been forced to bid against a needy Europe for funds. Taxation has run up the returns demanded by investors. A shrinking dollar increased the demand for capital just as an expanding dollar will diminish such demand. Building enterprise has been outbid in the money market by industrial enterprise willing to pay seven to eight per cent for capital.

When other conditions have righted theselves, there will be credit for building. Other conditions *may* right themselves partly as the result of new laws or amendments of old laws, but it is more likely that changes will result from the return to more normal, social and business relationships. It is to be expected that there will be still more suggestions and still more disclosures of hidden forces working for high wages and prices, but in the end, when time has brought the foreseeable readjustments, it will be found that building has been subjected only to the common influences that attended war, plus, perhaps, an unusual degree of human chicanery.

# Foreign Trade and the Economic Recovery of France

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THE whole sociological system of Herbert Spencer is erected on the opposition between a military civilization, the source of restraint, and a commercial civilization, the agent of liberty. The crisis which for six years involved the world in war has confirmed this theory. The State, threatened in its existence, has invaded every field of human activity, letting fall upon the people the heavy hand of the recruiter, seizing and requisitioning goods as it saw fit. But, as the British proverb goes, even if a gallows were erected at every wharf on the coast business would go on just the same. Instead of a gallows, we have submitted to prohibitive regulations sanctioned by fine and imprisonment, and, in the meantime, in the face of a thousand obstacles, our merchants have maintained our economic life. Today, during this period of transition which is one neither of war nor of peace, they are endeavoring as rapidly as jealously closed frontiers are opened to reunite the broken bonds of international relations.

France, under the menace of hostile armies which vexed her soil with terrible battles, was compelled to extend to the farthest limit the jurisdiction of the State, the effect of which always operates to restrict individual liberty. But this inflexible sovereignty imposed by circumstances was not in the nature of her institutions. As soon as danger was removed from beyond the Rhine, she was eager to release the close network of oppressive regulations. Being able to count only on exports to reëstablish credit and discharge foreign debts, France stands in the first rank of those nations which aspire for the suppression of those "economic barriers" condemned by a great American voice.

In this short study, we shall review first those measures taken during the war, some of which have survived. In contrast with the first period, the period following will appear liberal to those who would be tempted to consider it excessive in its monopolies and its prohibitions. We shall then examine the fluctuations in the commercial policy of France since the Armistice, with its alternatives of commercial freedom and protection dictated by the variations in exchange rates. Finally, we shall deal with the satisfactory results obtained by the institutions of economic expansion created or reëstablished by a great reform minister, M. Clementel, who had the unique honor of receiving the title of Minister of National Economy and, what is still better, of justifying it.

## Commercial Policy During the War

The war, by militarizing all the resources of the nation, brought about the dictatorship of the State acting as an economic even more than as a political unit. From the outbreak of hostilities, the government took Draconic measures to prevent the waste of national wealth indispensable to the victorious conduct of military operations.

These protective measures invariably resolved themselves into serious blows at commercial freedom, extending even to its complete annihilation; less than three years sufficed for this evolution which began August 2, 1914 and was completed by March 22, 1917.

These restrictions, originally directed towards the enemy, extended successively to neutrals and to the allies, every other consideration disappearing before the safety of the state.

Reasons of policy led the French government first to forbid its nationals to trade with nationals of the enemy powers. This was the object of the decree of September 27, 1914 and the law of August 17, 1915. Then, when Germany declared, at the end of March, 1915, that orders would be given to her submarines to sink every ship, even neutral, carrying any goods whatever, even non-contraband, destined for or leaving French or British ports, the Entente powers replied March 16, 1915, by declaring a commercial blockade of Germany. This rigorous blockade obliged the French Government to take strict precautions to assure itself that goods destined for such neutral countries as were neighbors of the enemy powers would not ultimately be reëxported to our enemies. For this purpose special organizations were created such as the Swiss Society for Commercial Inspection, The Netherlands Overseas Trust (Société Suisse de Surveillance Economique, le Trust Neerlandais d'outre mer), the purpose of which was to guarantee to the Allied governments that goods received there were not reëxported to enemy territory. Finally, to permit enforcement of the prohibitions against trading with enemy nationals, even when residing in neutral states, blacklists were prepared and published in the *Official Journal*.

### PROHIBITIONS

So far as neutrals and Allies were concerned, exports were the first to suffer the effects of the war. In order to conserve the national resources for the needs of the army and to prevent their serving to revictual the enemy, the government was compelled to adopt restrictive measures immediately in the case of foods and raw materials. Availing itself of a forgotten law of December 17, 1814, a survival of Napoleon's continental blockade, authorizing the government "to suspend in case of emergency the exportation of the products of the soil and of industry," it promulgated, beginning December 21, 1914, numerous decrees concerning each of the determined commodities as fast as the services concerned declared the necessity of prohibiting the export of such articles hitherto considered as sufficiently plentiful or of no military use. These prohibitions, however, were not absolute. The Minister of Finance might grant permits in individual cases or permanently in the case of the Allied countries. But legislative enactments were far less important than other factors, for exports were reduced by the shortage of labor, raw materials and coal, and especially by the crisis in the carrying trade caused by submarine warfare, from nearly seven billions of francs in 1913 to less than two billions in 1915.

On the other hand, imports were from the first greatly stimulated by the needs of national defense. Prohibitions did not appear until the struggle assumed the character of a test of economic endurance. Then the State faced the need of reducing foreign obligations in order to avoid aggravating the exchange situation, and to increase the amount of capital at its disposal. Moreover, by prohibiting the importation of luxuries, transport facilities, by that time greatly reduced by the submarine warfare, were reserved for war material from the United States, and the enormous advance in freight charges was checked.

A law of May 6, 1916, still in force in January, 1921, authorized the government to prohibit by decree the entrance of foreign goods or to increase the cus-

toms duties. Parliament, hitherto so jealous of its rights over the customs, contented itself by ratifying these decrees several months after their promulgation. After diverse partial measures, aimed especially at luxuries and alcohol, the government finally, by the decree of March 22, 1917, prohibited imports entirely. The temper of the people was gradually prepared for the principle of prohibition, which, if applied in its entirety, would have suspended the economic life of the country. Goods were arranged in three categories: (1) those enjoying a general exemption from the prohibition; (2) those prohibited except for exemptions granted upon the advice of a Committee of Exemptions. (Comité de Dérogations); (3) those whose importation was authorized under certain determined circumstances.

Some months later, the increasing difficulties of ocean transportation made necessary a closer coördination between the importing services and freight facilities. A decree of December 13, 1917 created an Executive Committee of Imports, which, acting in accord with corresponding bodies in the other Allied States, was to decide finally upon the imports to be admitted. At the same time, the Inter-allied Purchasing Board was created, which strengthened the tendency toward the concentration of private purchasing in the hands of centralized bodies under government control. Finally, the Allied Council of Maritime Transport established the program of transporting commodities admitted by the Executive Committee of Imports.

### COMPTOIRS AND CONSORTIUMS

Thus, at the moment when the State, at the desire expressed by the United States, became the sole buyer for France, first for meats and fats and then for cotton, the decree of March 22, 1917 provided for each authorized contingent of imports a plan of pro rata distribution of indispensable commodities among the different industrial and commercial groups. The result was the concentration of incoming commerce in the hands of State-controlled groups known as *comptoirs* and *consortiums* to which all firms consuming raw materials were obliged to apply.

As the holder of imported merchandise, the *consortium* established a common price for domestic and imported goods, and then effected a distribution of goods among manufacturers based upon their production capacity in such a way as to preserve for each of them, in spite of the scarcity of raw materials, a part, however reduced, of their activity. The most important *consortiums* were those of cotton, petroleum, petrol and newsprint paper. The régime of the *consortiums* permitted a satisfactory solution of the difficulties growing out of the war, and at the same time furnished the basis for an economic organization which will correct the excesses of individualism by the accepted discipline to which the members of a syndicate ought to submit themselves.

### COMMERCIAL POLICY OF THE TRANSITION PERIOD

By one restriction after another, the State, dominated by the necessities of war, had reduced to naught the freedom of foreign trade which before August 1914 knew nothing of the insurmountable obstacle of prohibition and considered as its only barrier customs duties which were easily overcome. The Armistice did not immediately restore this happy era. For more than a year after November 11, 1918, France experienced that intermediate period between war and peace. Then, she was forced constantly to watch over the grudging execution of a treaty of peace which was accepted by the van-

quished only under the constant threat of force. Finally, more than half of Europe, from the Adriatic to the Baltic, still heard in December 1920 the clash of arms. This fundamental fact must be kept constantly in mind in making a fair estimate of the government's slow return to commercial freedom, and in appreciating at its real value the considerable effort of the French manufacturers.

*Control of exports.* In the period of depression following the war, the whole commercial policy of the government was directed towards economic expansion. Thus by successive measures of January 20, 1919, July 12, 1919 and August 28, 1919, in order to relieve the crisis of the high cost of living, the embargo on exports was finally restricted to the principal food products which continued to be very scarce, and to indispensable raw materials to the extent that these latter could not be obtained in quantities sufficient for national production. In January 1921, the commodities provisionally on the prohibited list were fresh meats, fats, milk, eggs, cheese, butter, cereals, fodder, fertilizer and pitcoal. However, these prohibitions were not absolute. The administration having control of the product in question might authorize its export upon the payment of a fee. Finally, to encourage them, all exports were exempted from the tax of 1.1 per cent on the volume of business levied by Article 72 of the law of June 25, 1920.

The export of capital and transferable securities was subject to a more rigorous and minute regulation by the law of April 3, 1918 which is to remain in force until January 1, 1922. Travellers abroad are permitted to take with them only 5,000 francs in French or foreign banknotes. The export of gold is formally prohibited. An allowance of ten francs silver is permitted.

For fiscal reasons as well as for the preservation of the artistic patrimony of France, a law of August 31, 1920 made subject to administration authorization, the export of "objects of a national, historical or artistic interest." The provisions of the law apply only to objects dating prior to 1830, to the works of painters, engravers, designers and sculptors who died more than twenty years before the date of export as well as to objects secured from excavations in France. These articles authorized to be exported pay a duty of 15 per cent *ad valorem* up to 5,000 francs, 20 per cent between 5,000 and 20,000, and 25 per cent above 25,000 francs.

*Control of imports.* Immediately following the Armistice, on November 25, 1918, the Minister of Industrial Reconstruction, M. Loucheur, stated his willingness "to assure the progressive return to commercial freedom for the various needs of industry." But on February 14, 1919, the same minister declared necessary the provisional maintenance of the prohibitions on imports because of the fact that "it is the whole problem of foreign exchange that dominates that of imports." The commercial policy of the government, inspired by a desire for freedom and condemned to restrictions, was compelled to adjust itself to the varying circumstances of the international economic situation, whence arises an impression of vacillation: liberal tendencies in 1919, the extension of prohibitions in April 1920, return to liberalism in July 1920, the restrictions increasing as exchanges fall. We shall examine these fluctuations of policy, and at the same time point out another characteristic of the evolution, the progressive abandonment of prohibitions offset by a moderate increase in customs duties, the protective effect of which was lost by a considerable increase in prices.

### Brief Régime of Liberalism

In the weeks which followed the war, the feeling of relief was keen and widespread; there was assuredly an illusion that the régime of constraint would soon come to an end. A notice which appeared in the *Official Journal* for December 25, 1918 declared: "Every effort will be put forth to return as soon as possible to freedom in commercial transactions." And indeed Parliament and the Government entered resolutely upon this course as is witnessed by the law of January 20, 1919, the decree of the same day and the order of March 19, 1919 which exempted from the general prohibition on imports (decreed March 22, 1917) 350 articles out of 654 on the tariff schedules. The prohibition now applied only to yarn and textiles, metal and woodwork, miscellaneous manufactured articles and certain raw materials and foodstuffs, cotton, wool, flax, paper, metals, refrigerated meats, etc., over which "control was maintained to permit payments abroad for the best interests of the country."

Beside these general exemptions, particular exemptions from the prohibitions still in force might be granted by the competent administrative authorities who showed themselves to be quite generous. When the *consortiums* created for the centralization of foreign purchases were for the most part disbanded or transformed into private companies, the distribution of such wool and cotton textiles as were authorized to be imported, was made by the corporate groups interested.

This rapid return to commercial freedom was confirmed by various decrees in May, June and July 1919. On July 7, 1919, the list of prohibited articles of imports contained no more than a dozen items on the tariff schedules. Even these few interdictions were solely motivated either by the existence of organizations charged with the distribution of imports (the National-Press Office in the case of newsprint paper), or, in the case of cereals, by a veritable purchasing monopoly conferred upon the State. The statement preceding the decree of June 13, 1919, which removed most of the prohibitions, justified this decision in the following words: "This measure, which is in accord with the vote of Parliament, constitutes a decisive step in that return to commercial freedom demanded by public opinion, and is adopted in order to counteract the high cost of living by assuring a more abundant supply to the home market and by stimulating domestic production."

In less than a year after the Armistice, then, France had returned to a régime of almost complete liberalism. But this happy situation was ephemeral, since most of the other states did not lay aside so hastily the economic armor of war. In the course of the year 1919, the value of our imports rose to nearly thirty billions of francs, while exports scarcely reached nine billions. The result was an unfavorable trade balance of twenty billions and a disquieting depreciation of 70 per cent in the value of the franc in international exchange.

This critical situation called for heroic measures. The decree of April 20, 1920 prohibited absolutely the importation of something like 200 articles on the tariff schedules. The statement of the motives for the new decree revealed the gravity of the crisis. "We cannot conceal the fact," said the ministers, "that the question is a vital one, for if we continue unwisely to make useless imports we shall end shortly by being unable to obtain abroad the credit needed to purchase necessary foodstuffs and raw materials. It would be superfluous to insist upon the economic and social consequences of such

a redoubtable eventuality. The study given to the matter by the departments concerned has demonstrated the necessity of prohibiting the importation of a whole series of luxuries and indispensable articles."

In truth it was rather a question of rousing public opinion than of averting instantly a general crisis. It was evident on reflection that the prohibited articles, although constituting a large proportion of the total number on the schedule, gave rise to comparatively few transactions, less than a billion francs for thirty billions of imported goods. Moreover, it was necessary to include in the calculations the treaties with Italy, Switzerland and Portugal which obligated France to admit a certain number of their products.

This severe régime, however, was even shorter-lived than that of relative freedom which preceded it. It lasted exactly three months and was ended by the decree of July 22, 1920 still in force, which keeps on the prohibited list only about twenty articles and those subject to individual exemptions. This was in effect a return to the régime instituted July 7, 1919. The consumer, upon whom the Minister had wisely urged economy, began more or less spontaneously to practice an abstention which did not distinguish between imported and domestic products and which brought about a fall in prices in the home market. At the same time, the unfavorable exchange stimulated exports beyond the most sanguine hopes. The government, satisfied with its warning of April, returned in July to the liberalism which it had not ceased to profess in its official declarations.

### THE TARIFF AGAIN ON A PROTECTIVE BASIS

Complete freedom of foreign trade could not be reëstablished, however, except by placing the tariff on a protective basis again. The formidable rise in prices had effectively deprived it of its protective nature in the case of the specific duties which did not follow the variations in value of the articles subject to these duties. For this reason the government was compelled to avail itself of the power given it by the law of May 6, 1916 to increase customs' duties. In reality it was not a question of increasing duties so much as of restoring their pre-war efficacy. The policy of the government was clearly and vigorously set forth in the statement which preceded the decree of June 4, 1919.

"If freedom for imports," said MM. Clementel and Loucheur, "is an important element in commercial recovery, it must not be lost sight of that the most powerful factor in a general fall in prices exists in national activity, the source of production. Such activity, however, would run the risk of being paralyzed at a time when every effort should be put forth to reëstablish the normal life of the country, if the removal of restrictions on imports, which opens our markets to foreign competition, is not counteracted by a protective tariff. Failing sufficient protection, free importation would be the death warrant of numerous industries. The existing tariff does not provide such protection since the increase in prices has made it for most commodities merely a nominal tax without any compensating effects.

"While circumstances compelled us to call in, at great expense, the holdings of foreign securities which had so profoundly disjointed our commercial balance, this step did not secure an immediate remedy, since production was destroyed in the devastated sections and, to a great extent, suspended by the force of circumstances in the remainder of the country. For the rest,

the restrictive régime, to the extent that it applied to imports, reduced considerably the influence of foreign competition. Such competition could not continue. Our exports at that moment were reduced to one-sixth of our imports, and we would have courted economic ruin had we not immediately taken measures to restore production so that the country might, so far as was possible, free itself from the heavy tribute paid abroad and retrieve by sales abroad a financial situation, the difficulties of which were obvious.

"This is why we consider a provisional tariff a necessary corollary of free importations, pending the tariff revision under consideration.

"We say provisional because it is not so much a question of raising duties as of restoring the equilibrium destroyed by price increases in such a way as to give to French industry the minimum of protection which it enjoyed before the war. This plan will appear less extreme when it is remembered that industry finds itself in the paradoxical situation of being less protected than in normal times, and of being helplessly exposed to a foreign competition which has lost none of its resourcefulness.

"The specific duties at present in force being so calculated by the legislative branch as to represent a given percentage of the value of imported commodities, this percentage will be reëstablished."

### Régime of Coefficients

In order to reëstablish tariff equilibrium destroyed by price increases, the government first, June 14, 1919, superimposed on the normal duties, *ad valorem* surtaxes which equalized duties on the pre-war basis. This was to fall into all the vexations of *ad valorem* duties which revealed themselves immediately in practice. Hence, as early as July 8, 1919, a decree established coefficients which represented for the various dutiable articles included in the reform the relation between the price of goods in 1913 and their price in 1918. But "the government being anxious to avoid as far as possible all the causes for rising prices and resolved to signify very distinctly its intention not to stabilize existing prices which are too often the result of mere speculation, has arbitrarily adopted the figure 3 as the limit of the coefficients." In practice most articles had applied to them only the coefficients 1.2–1.4–2–2.3–2.6, etc. Moreover, determined to avoid every pretext for a rise in the price of necessities, the government exempted from the surtaxes foodstuffs, natural or prepared, as well as raw materials and those partially manufactured articles which were essential to production.

Finally, the government undertook to follow closely the trend of prices, and, in case of a decrease, to reduce the coefficient so as to preserve constantly a fair relation with pre-war prices. For this purpose, an interministerial commission was organized whose duty it was to revise periodically the table of coefficients, that these might express as accurately as possible the relation between existing and pre-war prices. Up to the present, conditions in the international market have not permitted any change in the coefficients. On the contrary, when the prohibition on imports of luxuries decreed in April, 1920 was removed in July, certain of these articles, truffles, carpets, etc., were subject to coefficients of 4.5 and even 6.6.

This régime of coefficients was still in force January, 1921 for Parliament, slow to make use of its prerogatives, on December 31, 1920 renewed for one year the authorization given to the government to raise the customs duties by decree. But the right to decree

prohibition of imports and exports was taken from the government and restored to Parliament. The government with the approval of Parliament refused to fix the customs in gold. This system was adopted by a large number of European States and was characterized by premiums ranging from 200 per cent in Italy to 4,000 per cent in Austria. Since July 1, 1920, imported commodities have paid independently of customs duties a domestic tax on the volume of business in the form of an *ad valorem* duty ranging from 1.1 to 10 per cent in the case of luxuries. It is really not a tax on imports but a consumption tax, the legislators wishing to reach foreign goods to the same extent as domestic products.

Certain products, such as breadstuffs, coal and petrol, by reason of their vital importance from the social as well as the economic point of view were subjected to special treatment. This régime was characterized by rigorous State control which extended to price-fixing and even to a practical monopoly of buying and importing. Justified by war-time necessities, it extended into the period of transition preceding the return to commercial freedom.

### State Intervention in Buying and Selling

The Minister of Commerce, armed with the power to requisition, was charged with purchasing cereals and breadstuffs both in France and abroad and with distributing them on the basis of consumption needs, by a system of rationing. The State found itself in this dilemma: Either it must increase by considerable proportions its financial assistance to the wheat-growers which had already meant a sacrifice of five billions of francs, or it must see the price of bread mount to such a figure as would threaten the stability of the social order. The government hoped that during the present year the forces making for reduction in prices would have some play; in fact it asked for and obtained an extension of this régime only until August 1, 1921, the next harvest. In asking for this extension, the Minister of Commerce declared: "The intention of the government is to reëstablish commercial freedom but, of course, on conditions which will not provoke social unrest nor increase the burdens of the State."

As to coal, the price of this commodity which was 20 francs per ton in 1914 was more than 400 francs in 1920. As a result of the systematic devastation by the enemy, the output fell off from 41 million tons to 22 million, making necessary the importation of 48 million tons. Since the selling price was fixed at the highest net cost of production, this price would have been determined, not by the price of French coal, 87 francs at the mines, but by the price of the English product which had reached 500 francs. The government, therefore, intervened and created an organization—the National Coal Bureau—for equalizing prices. This bureau controls the importation of coal and rations it to consumers. Equalization of price was secured by applying surtaxes to French coal and by granting abatements to foreign coal. An improvement in stocks of provisions due to Germany's execution of the Spa agreement, and to the welcome competition between English and American coal (the importation of the latter increasing from 13,000 tons in January 1920 to 700,000 in November) gives reason to anticipate the early disappearance of State intervention in buying and selling. The Minister of Public Works announced to the Chamber of Deputies at the session of December 30, 1920: "I have shown by my acts that I intend to return as soon as possible and in the

greatest measure possible to free trade in coal."

As for petrol, both its purchase and sale were monopolized by the State under the cover of a *consortium* composed of the ten private companies which before the war were practically the only intermediaries between the petrol trusts and the French consumer. The State acted through the office of a Commissary General, a function in which Senator Henry Beranger rendered signal services. The French Government negotiated directly for purchases of petrol abroad. Once imported, the State resold it to the *consortium* at a trifling increase over net cost. The *consortium* then distributed it among its agents who were unregulated in disposing of it in the interior.

This régime will certainly end during the present year but it is not yet known what will take its place. The government after having declared itself favorable to a monopoly in buying and importing has at last proposed a law providing for "controlled liberty." The following conclusions presented by M. Lamoureaux in the name of the Committee on Public Works of the Chamber of Deputies would give us reason to believe that Parliament may not follow the government:

The régime of liberty has failed. It is this régime which in the midst of war left us without production and without shipping and then showed itself powerless to supply us with either. The State as producer and trader: this is the régime of complete monopoly. This also has failed. There remains one régime, the existing one, which comprises the monopoly of buying and importing but which sells imported goods through a consortium. This régime has proved itself. Improvised in the midst of war, it has met all the needs of France. Under it important advantages have accrued to the State. It safeguards the rights of the consumer by the government's ever-present control of prices. Let us keep it.

The evil consequences of the war continuing beyond all reasonable expectations, the commercial policy of France remains in an uncertainty which is justified by considerable price fluctuations and universal depreciation of currency. In reality, the total import duties paid in France amount to from 5 to 30 per cent of the value of the goods imported, which is certainly a moderate increase in comparison with the results of most foreign tariffs. But the effect of exchange fluctuation on imports offsets the effect of strengthening the tariff. Take for example an article whose intrinsic value expressed in gold is a hundred francs. The mere fact that its value is expressed in foreign money causes its price to rise to 300 francs in New York and to fall to 25 francs in Berlin. The obstacle to purchases in the United States lies in the mere price of the commodity and a tariff is superfluous, whereas, in the case of Germany, the price in effect places such a premium on imports as to annihilate the tariff.

The exchange situation, then, is that insurmountable barrier, which, in the vivid imagery of Mr. Lloyd George, repulses famished German customers from the windows of glutted English shops, while beyond the Rhine it constitutes an enticing bait to English buyers. Like the God of the Bible, *Exurientes implevit bonis et divites dimisit inanes.* In modern language, it is a case of nations suffering from the "indigestion of riches." The remedy consists in an intelligent and generous submission to the laws of international solidarity. In the presence of such a potent and widespread phenomenon, the régime of tariffs loses its importance for the time being. Therefore, the French Government was wise in adopting provisionally the system of coefficients. On December 20, 1920, the Minister of Commerce in the face of a protectionist

offensive undertook to follow this system "with prudence and moderation."

However, the government was compelled to raise the general tariff considerably in order to give a wider latitude to negotiators in view of the proposed conclusion of commercial treaties. Such was the object of the decree of March 28, 1921. But the United States having been expressly excepted in the case of such of their products as were subject to the general tariff, this increase was applicable in reality only to those countries which were to be refused the minimum tariff. This measure, then, was completely effective only in the case of Germany from which imports into France were favored by the depreciation of our currency entirely out of proportion to the increase in the general tariff.

But wise foresight is the best provision for the future. Hence in the midst of hostilities, the government, at the happy suggestion of M. Clementel, Minister of Commerce, took under serious consideration the future commercial policy which would be adopted as soon as a stable peace would permit it. On April 23, 1918, M. Clementel made known in an official note, the government's intention to denounce "those commercial conventions containing the 'most favored nation' clause or tariff agreements—in a word, every agreement of such a nature as to prevent the enforcement of the new commercial policy under which France expects to place herself."

These denunciations becoming effective all existing commercial agreements were to be extended for periods of three months at a time only, until a new agreement should be reached. So far, only one agreement has been signed, that of November 4, 1920 with Czecho-Slovakia. Several others are being negotiated, notably with Poland, Canada, Portugal and Belgium.



The government in making these agreements remained faithful to the general principles underlying the creation of the tariff law of 1892, which, after slight change made in 1910, is still in force. The law of 1892 was characterized by the principle of autonomy. Parliament was free to change rates and was not bound by commercial treaties, while the government was only permitted to conclude conventions which might be denounced on twelve months' notice. The principle of autonomy had to be reconciled with the necessity of granting certain reductions to the contracting powers. For this reason, a double tariff was established: a general tariff applicable in principle to all foreign nations and a minimum tariff favoring those nations which extend like advantage to us. There was an average difference of 50 per cent between the two tariffs.

The tariff régime, uniform in spite of very different situations and constantly alterable, was lacking both in flexibility and stability. The negotiators were held to a program too rigid to permit the granting of concessions comparable in importance to the counter-proposals which varied from two per cent in Belgium to thirty per cent in the United States. They were compelled to apply the minimum tariff to countries not in a position to extend like favors and the concession of this tariff became a precedent which was invoked against us in subsequent negotiations. It became a matter of considerable importance, therefore, to be able to consent to reductions from the general tariff comparable to those which might be conceded to us in return. M. Clementel, Minister of Commerce, sought this result and obtained it by the law of July 29, 1919. This law authorized the government to negotiate with foreign powers for a reduc-

tion of duties calculated in percentages of the difference between the general and the minimum tariff, such reductions to be made in return for like advantages.

It is to be noted that both the actual and the prospective reforms effected only a technical readjustment in the tariff of 1912, and, except in the case of the system of coefficients rendered necessary by increases in prices, did not tend towards a systematic increase in duties. The more influential manufacturers understood that the tariff system was not the most important factor in the economic development of a people. This was so true that during the crisis many of them refused to ally themselves with the extreme protectionist program. And the Senate Tariff Commission, in renewing the authorization to the government to use coefficients, declared through M. Noël:

> "Do we wish to close the frontiers? No. Tariff measures ought only to be such compensations to the agricultural and industrial interests as will permit them to meet their competitors on equal terms—the correctives of varying economic situations."

But France had another motive more noble than her immediate interests for not abandoning herself to protectionism. France is essentially peaceful. She knows that political discord may arise from economic rivalries. It will be recalled how the discussion in Parliament in 1910 concerning increases in the tariff ended by an impressive vote in favor of progressive and universal tariff reduction. On the proposal of Juarès, the Chamber of Deputies adopted 521 to 1 the following motion: "The Chamber calls upon the Government to propose an international conference of the Powers interested, looking to a gradual and simultaneous reduction of tariffs."

## INSTRUMENTS OF COMMERCIAL EXPANSION

In the economic struggle for freedom of domestic trade and the opening of foreign markets, the tariff régime is merely a defensive arm; the offensive is to be furnished by instruments of commercial expansion, able to coördinate the work of the various public services and to support private initiative which is to remain predominant. Thanks to the patience of M. Clementel, France now possesses under the law of August 25, 1919, a program of economic expansion comprehensive enough to meet all the requirements of her manufacturing and commercial interests.

The Ministry of Commerce and Industry was immediately reorganized so as to include the following: a division of commercial expansion and credit, a division of commercial agreements and a division of commercial information.

The ministry, thus reorganized, is able to know the needs of the country, to determine the principles of a national economic policy and to put these principles into practice with the support of the group of interests known as the General Confederation of French Production (Confédération générale de la production française) and the regional groups constituted in the economic districts (régions économiques).

## NATIONAL FOREIGN TRADE OFFICE

But the work of a ministry is one rather of general supervision than of direct collaboration with producers. The latter duty was reserved to the National Foreign Trade Office, created in 1898 under the auspices of the Paris Chamber of Commerce, and made a national institution by the law of August 25, 1919. This official institution has for its purpose in the words of its charter "the furnishing to French

manufacturers and traders such commercial information as will be serviceable in developing foreign trade and extending markets in foreign countries and in the French possessions." This information is collected by correspondents, residing abroad, either by general investigations or by special inquiries; it is then carefully classified and placed at the disposal of interested individuals or groups. The office has been very successful in making available to domestic producers useful information concerning foreign markets and in discovering at home those able to profit by such information. It does not confine itself merely to supplying information; in a very real sense it makes possible the practical use of this information.

In order to give to the National Office the maximum influence abroad the government created in the most important commercial countries French Foreign Trade Offices. It is the purpose of these offices to aid manufacturers and traders in building up new relations abroad, and in developing further those already existing, especially by the following practical methods: the showing of samples, the choosing of representatives, the distribution of catalogues, the adjustment of disputes, etc. Offices at present functioning are those at London, Madrid, Rome, Zurich, Amsterdam, Bucharest and Stockholm and at Alexandria, the last, with agencies operating at Beirut, Constantinople, Smyrna, Saloniki and Athens, serves the near East. The National Office in France is the headquarters for those abroad.

### COMMERCIAL AGENTS AND ATTACHÉS

The National Foreign Trade Office distributes information whose value arises largely from the value of its own investigations. But it ought, rather, to work almost entirely in conjunction with our diplomatic agents, upon whom the proud tradition of the French kings, not "to behave as shopkeepers" too often rests heavily, and with our consular agents, more concerned with business and invariably competent, but absorbed in their administrative duties. The realization of the need of specialized experts in commercial information resulted in the creation (by the law of August 25, 1919) of a number of posts of commercial agents and attachés.

The attachés are commercial advisers to the embassies and legations to which they are assigned as well as inspectors, acting for the Ministry of Commerce, of all the organs answerable to the latter department: agents, offices, Chambers of Commerce, etc. The commercial agents are charged with the study, protection, and extension of French commercial interests within their jurisdictions. They are prepared to give instant and exact information on all practical questions concerning foreign trade. France now has attachés at London, New York, Rome, Madrid, Bucharest, Shanghai, Buenos Aires and Rio de Janeiro, and agents at Turin, Belgrade, Budapest, Prague, Frankfort, Vienna and Montreal. These posts will be increased in number as rapidly as the budget permits.

The enumeration of these organs of commercial expansion would be incomplete if no mention were made of the French Chambers of Commerce created in numerous foreign countries. As rallying points and centers for the coördination of efforts, these possess an organization capable of rendering valuable service to exporters. Finally, the Foreign Trade Advisers (Conseillers du Commerce Extérieur,) whose powers are to be enlarged will take a more active part in fostering exports. At the urgent suggestion of M. Clementel, President of their National Committee, they have founded regional

agencies, which, placed at the sources of production, will be able to direct abroad to the best advantage, commodities not absorbed by the domestic market.

The information furnished by these various agencies will give security to foreign trade. This security, however, would not be complete without a banking organization especially adapted to its needs. Before the war, manufacturers interested in exporting their products complained of being unable to secure long-time credits necessary for selling abroad. The banks of the mother country granted credit solely on the basis of the appearance of the seller without taking account (because they were uninformed) of what the buyer might be able to offer. There resulted from this serious deficiency a manifest inferiority, notably in comparison with England and Germany who were better furnished with banking facilities.

In order to remedy a situation so prejudicial to the vital interests of the country, M. Clementel, seconded by MM. Charmeil and Berrogain, brought about the creation of a French National Foreign Trade Bank (Banque National Française du Commerce Extérieur). This bank was founded by private initiative but was aided financially by the State and operated under its control. By the law of October 23, 1919, Parliament sanctioned an agreement entered into between the Minister of Commerce and Finance and the founders of a joint stock company capitalized at 100,000,000 francs. The company was organized at meetings held February 20th and March 4th, 1920 and since that date the bank has performed the functions authorized by its rules. It has at Paris facilities for the mobilization of long-term credit and has established branch offices in each important country abroad to which exports are made. These latter are especially charged with the duty of presenting and collecting drafts and bills of credit, as well as receiving and verifying goods accompanying bills-of-lading, and, in general, of handling all information of interest to the National Bank.

## TRANSPORTATION AND FOREIGN TRADE

Finally, foreign trade must have at its disposal the means of transportation which will assure as far as possible the distribution of its products. On the railways tariff reductions of from 10 to 25 per cent were made in the case of commodities intended for export regardless of the nationality of the consignee. But the most important rôle fell upon the merchant marine which for many reasons has not played its part perfectly. This is due largely to the necessity of paying foreign ship-owners for carrying services. This fact necessitated in 1913 an annual tribute of 500,000,000 francs which increased during the war to ten billion francs annually on the government's account alone. It is true that during the same period the submarine warfare reduced our merchant fleet from 1,922,000 tons to one million. But since the Armistice the government and the ship-owners have put forth efforts which promise a veritable regeneration. As a result of contracts signed by the Minister of Merchant Marine in 1918, important purchases in England and the United States, the partial recovery from Germany of ships sunk, and the renewed activity of the dock-yards, the French fleet has at present a tonnage of three millions, one million tons in excess of the figure for 1913. By the end of three years, France will have at her command a fleet of five million tons which is considered necessary in view of her foreign trade and colonial relations.

As in the case of foreign commerce, the State adopted towards the merchant marine a policy of freedom at home and of equal treatment of ships entering ports regardless of their nationality; even though in the latter days of the war the government had ordered the general requisition of the merchant fleet, it has just determined upon the liquidation of that part of the fleet still under its control.

### RESULTS OBTAINED

We must now see this commercial policy with its two phases of protection and expansion in action and ascertain its results. It is the rôle of governments merely to set the stage and to put it at the disposal of the actors, who in this case were our producers. The brunt of the task fell upon the latter. To them is due the credit for the work accomplished.

In France, particularly, the task was difficult and its performance admirable. Because of the complexity of international relations, there is doubtless not a country in the world which has not either as belligerent or as neutral felt the evil consequences of more than four years of war. But whereas the more favored have experienced only functional troubles, France has suffered the loss of her own sons and her richest provinces; two million workers in their prime were killed or mutilated, ten departments systematically ravaged.

The French producer, already weakened in vital force, is of all the most handicapped in the struggle for world markets; the war imposed upon him a debt of two hundred billions of francs, the arrears of which amount yearly to ten billions, and a budget of forty-four billions, of which twenty-four billions only are covered by revenues, the remainder representing a debt which the debtor continues to avoid. To support a like burden without weakening constitutes a trial without precedent in history. Hitherto a laborious nation, fortified by her political experience against the mirage of social revolution, France has learned to bear courageously the most difficult situations; during the war the people paid spontaneously into the Bank of France, 2,300,000,000 francs in gold, which aided in correcting the excess of paper currency; they are paying annually twelve billions more of taxes than in 1914; they have subscribed to six war loans to the amount of 87 billions of francs.

The French taxpayer, having performed this duty, prevented the ruin of the State in the shelter of which French manufacturers and traders carried on their activity. The latter, since the armistice, have taken up their work in a hostile world which has returned very slowly to normal conditions of international trade. During the whole of 1919 more than half of Europe owing to the persistence of war-time regulations was closed to French goods; relations with Germany were not reëstablished until January 10, 1920, while Russia is still a closed world to regular transactions. Moreover, many countries returned to the family of nations only to close their frontiers by sumptuary laws to articles of luxury which are essentially the products of France.

It is important to recall these persistent obstacles to appreciate at their true worth the efforts made by French exporters. Their exports which fell from 6,880 millions in 1913 to 1,937 millions in 1915 rose to 8,713 millions in 1919 and will probably amount to 22,600 millions for 1920. This tenfold increase in five years is prodigious. Fortunately it has been accompanied by a reduction in the disparity between exports and imports. Before the war, the excess of imports was ordinarily from 20 to 25 per cent, a normal

figure in old countries. The disparity reached 372 per cent in 1918; it was reduced to 242 per cent in 1919, and to 40 per cent in 1920.

Foreign commerce, having made an excellent beginning, will therefore be able to contribute to the amelioration of the finanical situation which became serious only as a result of the enormous increase in international transactions at a time when credits abroad were diminishing. Indeed, the financial situation will be definitely stabilized only when Germany loyally agrees to assume the payment of heavy reparations. But this prime condition of a stable peace being fulfilled, only increased exports will permit the reëstablishment of equilibrium of credits and foreign debts.

This formidable effort expressed by ten-fold exports in five years will be in vain if imports increase in the same proportion. Fortunately, this has not been the case, imports increasing from 11,036 millions in 1915 to 29,778 millions in 1919 and approximately to 34 billions in 1920. This increase is only three-fold compared to one of ten-fold in the case of exports. Even this reduction, however, has meant a deficit in trade balance of 20 billions of francs in 1919 and ten billions in 1920. This unfavorable balance lowers exchange rates, which in turn causes higher prices.

### Crisis in Raw Material

Now the increase of prices in the home market has had the inevitable result of tripling prices for raw material which are the basis of all industry, the "key products" as the English say. The French are paying for coal, wheat, wool, cotton, oil, etc., three times their real value in the world market, with the resulting enormous totals expended in 1919; for coal, 2,670,000,000 francs; cereals, 2,348,000,000; wool, 1,235,000,000; cotton, 1,760,000,000 and oil, 648,000,000. The utmost activity on the part of domestic industry only tipped farther the scales already so heavy with imports. The following are the figures for 1920; coal, 3,600,000,000; cereals, 2,800,000,000; wool, 2,330,000,000; cotton, 1,500,000,000 and oil, 1,100,000,000.

Thus for only five products, imports, necessitated by the essential needs of industry, rose in a year from 8,601,000,000 to 11,300,000,000 of francs. The practical question for French industry and French foreign commerce resolves itself into one of restoring a normal supply of raw materials. This is so true that the ten billion unfavorable balance of 1920 corresponds approximately to the increase in the value of raw materials. The needs of France for raw materials for her industries increased from five billion francs in 1913 to fifteen billions in 1920. There is another manifestation of this acute crisis in raw materials which is more significant, since it is expressed in terms of the quantity of goods exported. When exports of manufactured goods had, thanks to the activity of our manufacturing and trading groups, almost reached in quantity the figure for 1913, exports of raw materials remained at only half the pre-war amount.

### American Control of Situation

The principal factor in the crisis consists, of course, in the dearth of raw materials. This being understood, France is obligated to return to her purveyors, chief among whom is the United States, more than half a billion francs for meat and fats, more than a billion for cereals, 1,330,000,000 for cotton, more than 800,000,000 for oil, etc. M. Clementel understood this when, in the course of the discussion of the Treaty of Versailles, he said in the Chamber of Deputies, September 16,

1919: "There is every evidence that from the point of view of economic and financial recovery, it is America who holds the key to the situation."

But at the same time, the Minister of Commerce recalled the disappointment he had experienced in his attempt to treat with the holder of the precious key. Between the Armistice and the Peace Conference, he had exerted himself to secure agreements with England and the United States to maintain the interallied organizations dealing with raw materials. He was fortunate enough to conclude an important agreement with Lord Reading by the terms of which, he said, France "obtained the assurance of a supply of raw materials in sufficient quantity and at a price equal to that paid by England." But this agreement was to be enforced only in case the American Government undertook a similar engagement. The latter agreement was not realized and therefore the Franco-British treaty lapsed.

President Wilson, in neglecting to build his idealistic structures on sound economic foundations, erected a precarious work which was incapable of practical realization. France, thanks to her extensive resources, both national and colonial, exploited by an industrious population, is able to avoid economic domination since the era of monopolies in raw materials is past; she is able to find cereals, meat, cotton and oil without being subject to the terms of a monopolist; too proud to be dependent, she will be able by a liberal commercial policy to submit herself to the laws of interdependence which national economy demands.

In order to bring to a satisfactory conclusion this work of coöperation, France will be happy to go forward in complete accord with the United States to achieve a truly beneficent peace, just as she has gloriously concluded the war. This is more than a hope for France; it is a certainty for her, since she has placed her trust in the solemn promise made by the American Government in September 1916: "It is manifestly our duty to seek the service of humanity by reserving our strength and our resources for the difficult and anxious days of reconstruction and recovery when peace comes."

The days of a peace which is uncertain both at home and abroad are inconceivably anxious and difficult. It is the part of the United States to shorten these days by contributing to the economic restoration of the world.

# Public Finance in Ancient India

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BUDGET making is an essentially modern institution. It is only since the time of Napoleon that regular estimates of receipts and expenditures have been yearly prepared in France.[1] In spite of the comparative abundance of reliable data no ingenuity of modern research has been able to reconstruct the sheet of liabilities and assets of the Roman Empire for any period, but the administrative history of Hindu India is yet in its non-age. It is out of the question, therefore, to attempt such wide guesses about the

[1] Palgrave's *Dictionary of Political Economy* (Art. on "Finances-France") Volume II, p. 68; Leroy-Beaulieu's *Traité de la science des finances*, Volume II, *pp.* 11–12 (8th Edition).

annual expenses even of the Maurya Empire (*B. C.* 322–185), for which information is more plentiful than for others, as has been done in regard to the Athenian state by Bökh[2]; or about the total revenues as has been done in regard to the Roman Empire by Gibbon and Guizot[3]; nor is it possible to test the fiscal policy of Hindu states by the modern canons of taxation, especially on the complicated questions of justice, ability to pay, or equality of assessment.

A LAY BALANCE-SHEET (*c* 640 *A. D.*)

A contemporary account of the finances of the Vardhana Empire (606–647) is furnished by Hiuen Thsang, the Chinese state guest of Harsha. It is said that forced labor was not exacted by the government. When the public works required it, labor was exacted but paid for in strict proportion to the work. Those who cultivated the royal estates paid a sixth part of the produce as the share of the state. The river passages and the road barriers were open on payment of a small toll. In regard to public expenditure there are said to have been four charges on the private demesnes of the crown. The first charge was the management of the affairs of state and the provision for sacrificial offerings. The second was for providing subsidies for the ministers and chief officers of state. Honorariums for men of distinguished ability constituted the third charge, and the fourth was religious charity. Altogether, in the Chinese scholar-pilgrim's opinion, the taxes on the people were light, and personal service required of them was moderate.[4]

Evidently we have here the material for a very elementary balance-sheet, much too naïve for an imperial organization[5] based as it was on the triumphs of *dig-vijaya* (conquest of the four quarters of the world) and military aggression[6] no less than on the "victories of peace." The reporter was a layman and naturally failed to notice the "sinews of war" that operated the administrative machinery of *pax sârva-bhaumica* (peace of the world-empire).[7] It is on such facile statements about "light taxes" and "religious charities," however, that students of comparative politics in the nineteenth century used to found their estimate of the Hindu political systems. Today the states of old Asia are treated by scholars more or less in the same light as the feudal kingdoms of medieval Europe; that is, as organizations modeled on a private household, the domestic establishment of the ruler.[8]

SOUTH INDIAN REVENUES (*c* 900–1300 A. D.)

Let us examine the imperialism of the Hindu *sârva-bhaumas* (world-rulers) on the basis of their own charters, decrees and promulgations (*shâsanas*) that have been rendered accessible by the archeological and epigraphic investigations of recent years. The statesmen of the Chola Empire (900–1300) would appear to have been at their wits end in devising new forms of revenue. No complete list of all the heads of government income is available for this South Indian (Madras and Mysore) state, but several

[2] Schömann's *Antiquities of Greece*, p. 445.

[3] Ramsay and Lancian's *Roman Antiquities*, (16th Edition), p. 282.

[4] Beal's *Si Yu-ki*, Volume I, pp. 87–88.

[5] See the extent of the Vardhana Empire on the map facing p. 340 of Smith's *Early History of India* (Edition 1914).

[6] Bana's *Harsha-charita* (Cowell's translation), p. 188.

[7] Vide the author's article on "The Hindu Theory of International Relations" in the *American Political Science Review* for August, 1919.

[8] Article on "Finance" in the *Encyclopaedia Britannica* (11th Edition).

Tamil inscriptions[9] describe the immunities from dues to the state enjoyed by certain villages through the grant of royal charters. From the schedule of these "privileges" we can automatically see a great part of the other side of the shield; namely, the normal contributions to the imperial treasury for which each village was ordinarily liable.

The available list indicates only the revenue from villages or village unions; but it is questionable whether we are justified in treating it exclusively as that which should technically be a branch of "local finance." The village through its *panchayat* (council of five; that is, a body of competent men) was indeed responsible as a unit for the realization of all public income within its area[10]; but the heads of income do not seem to have been classified and specifically ear-marked as local and national. They can easily be brought down to the tripartite division into taxes, fees and prices.[11]

In the first place, there was a "tax in money."[12] It may have been a direct tax per capita like the poll tax of 1377–1380 in England during the Hundred Years' War, or the *tributum* in Rome.

Something like a "general property tax" is to be understood in several imposts. Like the horses and cattle taxed by medieval German states[13] "animals" were counted to contribute to the Chola exchequer. The furniture, clothing and ornaments are not enumerated in the schedule of taxes on "personalty," but "movable" property, as contrasted with the real estate, was assessed in the form of "fixed capital" like looms and oil mills. Tanks, also, were included in the list of property dues.

A tax was realized on weights, whatever it might imply. Some light may be thrown on this item from the legislation of the Mauryas. In the *Artha shastra* of Kautilya (*c* 300 *B. C.*) we read that no trader was allowed to have his own weights and measures. Every day the business men had to have their scales and weights stamped afresh by the government.[14] The authorities realized a revenue from the stamps. Now if this custom of the first Hindu empire were followed by the Tamil *sârva-bhaumas*, we may consider this business tax on weights to be another property tax.

It is doubtful if the business or license tax paid by the Tamil goldsmith should not be scheduled as a charge on property, but "unripe fruit" in the *Kartigai* month, though a levy in kind, must be regarded as such. Stocks, bonds and mortgages that are so prominent in modern economic life and necessarily occupy an important place in the taxation of property, are naturally not to be looked for in the Hindu finances of the tenth, eleventh, twelfth and thirteenth centuries. However, it is interesting to note that the "sonship" was assessed among certain social classes; for example, the "right hand" and "left hand" orders. The public income for the sonship dues was identical with that accruing from inheritance tax, or estate or "death duty"; that is, the charge made by modern governments on the transfer of property from the dead to the living.

None of these property dues were

[9] *South Indian Inscriptions*, Volume II, Pt. i, No. 22.

[10] Aiyangar's *Ancient India*, *pp*. 161, 163–164.

[11] Plehn's *Introduction to Public Finance*, *pp*. 76–79, 92–100; Seligman's *Essays in Taxation*, *pp*. 430–431.

[12] The list can be seen conveniently in *Aiyangar*, *pp*. 165–166, 180, 181–182.

[13] Seligman's *Essays*, *p*. 39. cf. Aghnides' *Mohammedan Theories of Finance*, *pp*. 526, 527.

[14] Shamasastry's article on "Chanakya's Land and Revenue Policy" in the *Indian Antiquary* 1905, *pp*. 50–51.

prices charged by the government for economic or other services rendered to the people. They were all deduced from the power of the state to obtain revenue by "compulsory dues and charges upon its subjects"; that is, taxes in the strictest sense of the term. None of them, moreover, can be regarded as income from "state property" and "state monopolies,"—the two sources that contribute about 25 per cent of French revenues.[15]

Taxes on consumption were not neglected by the Chola Empire. There was a tax on bazaars. The levy of tolls was common. The tax on trade or sales, like the Athenian and Roman excise of 1 per cent,[16] was another regular feature of the financial system. As taxes on the necessaries of life, these excise duties could not but touch the community at every grade. They served, therefore, economically speaking, as real poll taxes though of an "indirect" denomination. We do not know if salt was a state monopoly as under the Roman republic,[17] or as in Maurya India, but the French *gabelle*[18] was not to be forgotten by the Tamils who were too mindful of their revenues to overlook tapping this necessity of life that is bound to obey the law of "inelastic demand."

A rent or license tax was realized from the fishers. Taxes on the collection of rents also are mentioned. Tax-"farming" may thus have been a fact in certain directions. Furthermore, the "penal power" of the state was effectively made use of to coöperate with its finance department. It is known only that apothecaries were fined for "rotten drugs." An income of minor character is obvious in Kulottunga's legislation (1070–1118) by which the state charged a seigniorage upon coining.[19]

Income from the services of the state is mentioned in three connections. First, the villagers had to contribute their mite to maintain the watchman who was placed over the *vettis* (paths). This was for obvious reasons a regular rate or cess, though local, for one of the minimum functions of government. Secondly, the state seems to have supplied the *karman* to measure the paddy of the cultivators. He had to be paid for by the rural commune at a certain rate. Lastly, a water rate or "tax on water courses" for irrigation was an inevitable charge upon every peasant.

Mines, though they must certainly have been important sources of Chola revenues, are not mentioned in the inscriptions, nor is there any reference to the customs duties. Neither of these could form part of the regular dues of a village to the government.

We have now to add the revenue from property *par excellence*, the "real estate" as it is called. Not only in primitive communities, but in Rome also, even under the Empire, land revenue was the mainstay of the government. This land revenue was essentially a rent from "crownland," *ager publicus;* that is, public domain. It took the Romans a long time to get used to the idea of a non-land revenue. Taxes like the *tributum* were considered by the republic as "forced loans" to be repaid out of the loot of conquest, and these were resorted to only when the proceeds of the "domain" proved inadequate to meet the extraordinary expenses.[20]

[15] Palgrave's *Dictionary*, Volume II, *p*. 69.

[16] Schömann, *p*. 449.

[17] Ramsay, *p*. 277.

[18] Brissaud's *History of French Public Law*, *p*. 505.

[19] Aiyangar, *pp*. 149–150.

[20] Seligman's *Essays*, *p*. 35. The same Roman views are expressed in the sixteenth century by the French political philosopher, Jean Bodin, in his *Les six livres de la république* (Book VI, ch. ii, *Des Finances*).

Under the Tamils, South India's financial backbone must have been furnished by the realizations from land. The rate was not low. The early Roman Empire used to levy land revenue at the rate of one-tenth of the produce,[21] but in Chola India the government demand was one-sixth. This high rate was the normal *bhâga* or share of the government in land produce according to the stereotyped "pious wish" of the *dharma-shastras* (law books) and *nîti-shastras* (political science).[22] And yet in *Realpolitik* this conventional norm was but a fiscal camouflage that may deceive the academic student of financial history but did not fail to press the taxpayers themselves. For in Chola legislation the additional imposts on land, besides the tolls and *octrois*, were clearly defined as being one-tenth of the yield. The total revenue from land was thus four-fifteenths or more than 25 per cent of the gross outturn in Rajadhiraja's time (1035–1053).[23]

An interesting theoretical study in connection with the Chola revenue from real property would be that bearing on its precise character as to whether it was rent or tax. Communism in land ownership is practically unknown in the Hindu law books.[24] The trend of ancient legal thought on the subject of land tenure is to regard it as an individual concern, but in Tamil inscriptions, while the individualistic tenure (the *ryotwari*, to use the British Indian term) is easily to be inferred, communal property in certain lands is also assured to village *panchayats* by the legislation of Rajaraja the Great (985–1018).[25] We may take it that so far as the Chola Empire is concerned, land was owned both in severalty as well as in common.

This does not, however, settle the question as to how far the crown was the legal proprietor of land; that is, how far the "village community" or the individual cultivator were but "tenants" of the state landlord (paying economic "rents" for the usufruct of a property) and how far their dues were "direct taxes" paid on their own "immovable" possessions. It is the tendency of modern Indologists to postulate all lands as state property and therefore the income from land as crown rent. It is hardly possible to maintain this position on the basis of actual proprietary documents, *shâsanas* (laws or charters) and epigraphic records. For all practical purposes the presumption should be that ancient India did not know of state landlordism; that is, land nationalization,[26] except in very limited areas. The land revenue of the Hindu states was, therefore, generally speaking, a tax, but, as Sir Robert Giffen[27] explains away the distinction between rent and tax, the fact of a government levying so general a charge may be held *ipso facto* to convert the charge into a tax having much the same economic effects and consequences as a tax. In strict theory, "where the government makes a charge, it levies a tax." The features of monopoly and compulsion on the taxpayer associated with all forms of land revenue "make the charges difficult to

[21] Ramsay, *p.* 276.

[22] Vide the author's article on "Hindu Political Philosophy" in the *Political Science Quarterly* for December, 1918 and on the "Hindu Theory of the State" in the same journal for March, 1921.

[23] Aiyangar, *pp.* 181–182.

[24] Jolly's *Recht und Sitte*, *pp.* 93–96; Hopkins' *India Old and New* (Land Tenure), *pp.* 221, 225, 229; Macdonell and Keith's *Vedic Index*, Vol. I, *pp.* 245–246.

[25] Aiyangar, *pp.* 161, 163–164.

[26] Vide the discussion on public lands in Rau's *Finanzwissenschaft* (1864), *pp.* 127–133. *Cf.* Bodin, *pp.* 628–634 (Edition 1578).

[27] Article on "Taxation" in the *Encyclopedia Britannica.*

distinguish logically from other taxes."

On the whole, the Chola revenues were bulky in dimensions and the people of southern India heavily taxed. Only one ruler is spoken of as having slightly reduced the amount of the people's dues. Kulottunga's name became a household word in Madras of the eleventh and twelfth centuries, for in 1086, the year of the Domesday Book, he abolished the tolls[28] after the completion of the cadastral survey,—the second such survey of the Chola Empire, but the general story of *les nerfs de la république*, the "nerves of the state," as Bodin puts it, under the Chola Empire was uniform. Like the governments of Europe in the days of Adam Smith,[29] the south Indian monarchs knew how to exact as much as they could, "only desirous of finding the easiest means of doing so." The one redeeming feature seems to be that the empire was conscious of the high price at which *pax sârva-bhaumica* was being enjoyed by the people. Raja-raja the Great accordingly instructed the finance officers to be elastic in the collection of revenues.[30]

Taxation as such was unknown in France previous to 1300.[31] As a function of the state and as an institution of "public law" it virtually ceased to exist with the destruction of the Roman Empire by the Teutons. In its place was substituted the "private claim" of customary dues, fines or tolls by landlords and barons.[32] The transition from this "feudal" to "modern" finance was a lengthy process in England.[33] It was not before the rise of the nation-states in the fifteenth and sixteenth centuries that the right of government to levy "taxes" on the people became established or rather reëstablished in the western world. For purposes of comparative politics it is necessary to note that the Chola finances do not exhibit the features of the disintegrated feudal polity of medieval Europe. The revenues of the Chola Empire possessed the same variety in form as the Roman-Imperial and the modern French. They may be classified, if necessary, according to the Latin *patrimonia*, *tributa* and *vectigalia*, or the more popular *domaine*, *contributions directes*, and *contributions indirectes* of modern science. Of course the right of taxation was firmly planted in the political consciousness of Chola India.

## THE CONSUMPTION-SCHEDULE OF HINDU STATES

It is not difficult to explain why the imperial structures of the Hindus should have been heavily assessed organizations. The reasons are to be sought in the great variety and quantity of the state's "consumption." They are essentially identical with what economists like Nitti and Leroy-Beaulieu[34] have traced in the growth of public expenditures in modern times. The functions of Hindu governments were manifold. Consciously or unconsciously, whether backed by a definite theory of *nîti* (statecraft) like the late German Empire or not, every state in India was a "culture-state." The invariable end of every Hindu polity was the protection and development of *dharma*. Like *Kultur* and Arnoldian "culture," *dharma* is a very comprehensive category. Exceedingly elastic in its significance, like the English term "law," the concept is the basis of distinction, the *fundamentum divisionis*, between

[28] Aiyangar, 149–150.

[29] *Encyclopedia Britannica* (Taxation).

[30] Aiyangar, *p.* 182.

[31] Brissaud, *pp.* 487–491; Leroy Beaulieu, Vol. II, *pp.* 6–7.

[32] *Encyclopedia Britannica* (Finance).

[33] *Ibid.* (article on "English Finance").

[34] Leroy-Beaulieu, Vol. II, *pp.* 171–181.

man and the brute. *Dharmena hînâh* (those who have not *dharma*) says the *Gîtâ*, *pashubhih samânâh* (are like the beasts). In *dharma*, the analogue of the "virtue" of Plato's *Republic*, is to be found the *differentium* between the human world and that of *pashu* or "beasts and birds" as Hobbes would have it. An agency for the promotion of humanism, that is, for the advancement of all that lets "the ape and tiger die" and develops the people's material and moral interests,—of anything, in short, that is conducive to national well-being was necessarily a multi-functional corporate organism. The *dharma*-states of India had, therefore, before them an almost unlimited range of what in scientific parlance is known as "developmental" activity. Not of an Arcadian character could thus be the "appropriations" of the Hindu empires.

We need not enumerate the duties of government stated in the *nîti-shastras*. Let us note only the functions of the historic state systems that may be gathered from the inscriptions and contemporary reports. The economic development of the country was undertaken by the Maurya, Gupta, Kashmirian, Tamil and Ceylonese governments. Their care for irrigation[35] in different parts of the empire is a solid testimony to their recognition of the secular interests of the state. The construction of magnificent roads was another function along the same line.[36] The beautifying of cities and measures for street-cleaning, sanitation, etc. were important items of state business in Chola territories.[37] The promotion of aesthetic as well as "productive" arts and crafts was a normal function of almost every Hindu state. The encouragement or "protection" of skilled workmen, the steady maintenance of shipbuilders and naval architects, and state employment of miners and other industrial artisans, were among the duties of the Maurya civil service. Shipbuilding[38] and manufacture of arms and ammunitions were in fact state monopolies. Wood cutting, carpentry and smithery works came, therefore, under the state control. All governments undertook to lay out parks and grounds for recreation and pastime. Pharmaceutical gardens were state necessities. Palaces and public halls were likewise some of the "useful magnificences" that no state could dispense with. The Pandya rulers (*c* 100–300 *A.D.*) were patrons of *parishads* or academies of literature.[39] The Guptas[40] (330–600) and the Palas[41] (*c* 750-1150) considered universities among important charges on the imperial exchequer. Temples and *vihâras* or monasteries were built at state expense both by the Vardhana and Chalukya emperors of the seventh century.[42] Not the conventional religion and morality of the time alone found an asylum in these institutions. The financial authorities must have regarded them as schools of higher learn-

[35] *Epigraphia Indica* 1905–1906, *pp.* 46–49; *Gupta Inscriptions* (*Corpus Inscriptionum Indicarum*), *pp.* 56–65; Kalhana's *Raja-taranginee* (Stein's translation), Book V, verses 68–117; Venkayya's "Irrigation in Southern India in ancient times" in the *Archaeological Survey of India*, Annual Report, 1903–4; Deakin's *Irrigated India and Ceylon*, 239–242, 252; Aiyangar, 185–188.

[36] McCrindle's *Ancient India* (*Megasthenes*, XXXIV), *p.* 86, Arrian's *Indika* III; Aiyangar, 188–189; Law's *Hindu Polity*, Vol. I, *pp.* 68–75.

[37] Venkatarama Ayyar's *Town Planning in Ancient Deccan*, *pp.* 42, 44, 51.

[38] McCrindle's *Ancient India*, *p.* 86; Strabo, XV, 46; Mookerji's *Indian Shipping*, *p.* 102.

[39] Aiyangar, *pp.* 70, 337, 359, 360, 379–82.

[40] Takakusu's *Itsing: Record of the Buddhist Religion*, *pp.* 65, 154, 177.

[41] *Indian Antiquary*, 1888, *pp.* 308–311.

[42] Beal's *Si Yu-ki*, Vols. I and II (see Hiuen Thsang's account of any of the states visited by him).

ing as well. From the cultural standpoint these were at once the art galleries and museums of the people. As resorts for the relief of the sick, the distressed and the poor the ostensibly religious buildings discharged an important economic function like the Catholic institutions of medieval Europe. Add to all this the minimum functions of every state as state, namely, the protection of person and property, or national defense by army and navy, as well as internal policing by adequate executive and judicial staff. The extent of these minimum functions can be realized from the fact that in the Maurya Empire the appropriations on this head absorbed 25 per cent of the total revenues.[43]

## PRIVATE ENTERPRISE IN PUBLIC WORKS

It is not necessary to compare the functions of Hindu states item by item as regards quantity and variety with the long list of modern state activities that have been daily expanding under the impact of socialism. The socialistic trend of India's *dharma*-states is apparent enough. It must not be surmised, however, that every public work among Hindus was the undertaking of the state, for the patriotism of citizens was responsible in every age for the founding and maintenance of useful institutions. In Gupta India hospitals[44] were built and endowed by the public spirited towns folk of Pataliputra (near modern Bankipore in Bihar Province), the Rome of the Hindus. Rudra-damana (*cA.D.* 150), a satrap of Gujarat, repaired the Sudarshana reservoir at his own expense, the ministers having refused to supply funds from the government treasury.[45] Ushavadata's (*c* 100 *A.D.*) endowments in the Andhra Deccan may serve as a standing example of the manner in which the people coöperated with the state and supplemented its activity along developmental or cultural lines.

One of the hill caves in Govardhana (Nasik District in the Bombay Presidency) was excavated at Ushavadata's expense.[46] Among his numerous benefactions we read of the gift of 300,000 cows, the construction of flights of steps on a river and the giving away of sixteen villages for religious purposes. This philanthropist used to maintain 100,000 priests and scholars with board. He bore the marriage expenses of eight Brahmanas at Somnath. His quadrangles, public halls and halting places, as well as gardens, tanks and wells were spread over the country from Broach and Bassein, the ports on the Arabian Sea coast, to Dashapura in Malwa, far inland in Upper India. Ferry boats were placed by him over six rivers in northern Bombay. Both sides of these rivers were also furnished with rest houses and equipped with arrangements for the distribution of water to travelers. Moreover, he founded certain benefactions for the support of several academies of Vedic learning in various parts of the Maratha country.

Such private endowments for public purposes were undoubtedly numerous in every epoch of Hindu polity. But none the less the financial burden of public administration weighed heavy upon the "pillars of the state." The government could not afford to depend solely upon "local patriotism" and voluntary contributions. The expenses of national housekeeping had to be met regularly from the resources of the empire. The financiers, therefore, had to raise the necessary revenue by hook or by crook.

[43] *Indian Antiquary*, 1909, *p.* 263.
[44] Beal's *Travels of Fa Hien*, *p.* 107.
[45] *Epigraphia Indica*, 1905–1906, *loc. cit.*

[46] *Nasik Inscriptions*, No. 17; R. G. Bhandarkar's *Early History of the Deccan*, Sec. IV.

### VITAL STATISTICS

Census[47] was an important institution of the Mauryas. It was used by the municipal corporation of Patali-putra as well as by the imperial civil service. The *gopa* or village magistrate, the *sthânika* or district magistrate, as well as the *nâgaraka* or mayor of the city were alive to the importance of vital statistics. The numbering of persons, houses, and cattle as well as the measurement of lands, pastures and gardens furnished the *samâhartâ* or collector-general with definite data for the valuation and assessment of the people's wealth.[48] The cadastral surveys organized by the Cholas[49] in 986 and 1086 were also calculated to ensure the same end. Both these instruments tended to bring about centralization and consolidation of the public revenues and were indeed, together with the war office, the judiciary and the executive service, the most effective means of establishing *pax sârva-bhaumica*. The financial organization aimed at by the Hindu empires was thus akin to the "integration" of national outlays and revenues that have been the steady achievement of modern Europe since the fifteenth and sixteenth centuries. It is the system of the Roman Empire in classical times with its official tax collectors who replaced the *publicani* or revenue-"farmers" of the republic that should be kept before the mind's eye while appraising the public expenditure, national resources or heads of income, and financial administration of Hindu India from *B. C.* 332 to 1300.

### KAUTILYAN FINANCES (*c* 300 *B. C.*)

We shall now proceed to analyze the revenues of the Maurya Empire (*B. C.* 322–*B. C.* 185). One of the functions of the *gopa*, the officer at the lowest rung of the executive hierarchy, was to register the probable dues of the villagers in "working men"[50] along with taxes, tolls and fines. It is not clear whether we are to understand that the empire used to receive contributions in "services" like the Roman republic in its earlier stages,—for instance, such as is recommended by Vishnu,[51] Manu,[52] and Shukra.[53] In Megasthenes' account of India, we again read that one of the objects of the vital statistics kept by the census officials of the municipal corporation of Patali-putra was the levy of a tax.[54] If some particular tax is to be singled out because of this statement it was evidently a poll tax on the citizens per head.

The financial authorities themselves classified the revenues into seven principal groups according to the kind of resource tapped by them. "Fortified cities" constituted the first revenue jurisdiction. The *rashtra* or "country" districts constituted the second. Mines were treated as a distinct source of public income. Gardens and forests also formed two independent groups. Quadrupeds like cows, buffaloes, sheep, goats, asses, camels, horses and mules likewise contributed their quota. The seventh head was traffic both by land and water.

Each of these sources is described in detail in the *Artha-shastra*.[55] The several items of income from the "country," for instance, the second in the above grouping, comprised six

[47] Law, Vol. I, *pp.* 106–114.
[48] *Indian Antiquary*, 1905, *p.* 5.
[49] Aiyangar, 144, 149–150, 175–177.
[50] *Indian Antiquary*, 1905, *p.* 5.
[51] Chapter III, 32 (The Sacred Books of the East Series).
[52] VII, 138.
[53] Chapter IV, Sec. ii, line 241 (Sarkar's translation in the Panini Office Series, Allahabad).
[54] McCrindle's *Ancient India*, *pp.* 87–88.
[55] *Indian Antiquary*, 1905, *p.* 47.

heads. Crown lands yielded the first revenue, known as *sîtâ*. The second head was *bhâga* (share) or revenue in kind realized from private landlords. A special tax, *bali*, corresponding to the dues realized by Athens for the festivities was demanded for religious purposes. Sundry collections known as *kara* were made in money. *Târa* was the toll realized on boats, ferries and ships. The sixth item consisted of various dues, *vartanî* (road-cess), *shulka* (toll), etc. and was levied as a rate on all traffic.

The fortified cities contributed to the imperial exchequer under twenty different heads. These were toll, fines, weights and measures, jails, currency, passports, excise, slaughter houses, oils, *ghee* (clarified butter), salt, goldsmiths, commerce, courtesans, gambling, housebuilding, artisans, gate dues and religious institutions. There were special taxes on a people called Baharikas. They appear to have been mercenary soldiers or some wealthy community living at Nalanda, the famous university town of later ages. Like Jews in Europe, this race was considered by the Hindu empire to be a good victim for fleecing.

Altogether, there were at least fifty different names under which revenues flowed into the treasury. For our present purpose we shall classify them into eight modern categories: (1) land revenue, including the income from forests and gardens, (2) customs duties, (3) excise on sales, (4) "direct" property taxes of various denominations, (5) fines as penalties for all sorts of offense, (6) economic "earnings" or profits from the commercial undertakings of the naval department, (7) income from the state monopolies in extractive (mine, salt, etc.) and other industries, (8) miscellaneous collections like port dues, etc.

As with the Roman Empire,[56] the chief source of Maurya income was the receipt from land. In the west the process of fiscal reorganization from Hadrian to Diocletian led up to the system of assessment for fifteen years, but in regard to the Mauryas no information is available as to the period for which the valuations were made.

In Athens land belonged to the state. In Maurya India certain passages of the *Artha-shastra* may lend color to the hypothesis as to the "public ownership" of the chief "agent of production." If Kautilya's statements may be taken as "positive law" on the subject, both land and water belonged to the government. The people could exercise their proprietary right in regard to all other species of property excepting these two.[57] On the other hand, this position would appear to be inconsistent with the fact noted above that two distinct items were enumerated as land revenue from the *rashtra* or country districts of the empire. The *sîtâ* was the income from the state lands. It was thus crown rent. The other realization was specifically known as *bhâga*, the "share" of the state in the "produce" of the people's lands. The private proprietors were known as *sva-viryopajîvinah*. Besides, the right of private property in real estate was clearly recognized in the law of sales. According to the legislation in the *Artha-shastra*,[58] village lands were to be sold in the presence of forty neighbors who owned lands in the vicinity. The state could demand only the legitimate excise on the sale. The same proprietary right is to be inferred from, though also limited by,

[56] Arnold's *Roman System of Provincial Administration*, *pp.* 203–204; Ramsay, *pp.* 275–281; *Encyclopedia Britannica* ("Finance").

[57] *Artha-shastra*, II, xxiv, cf. the Mohammedan theory of public domain, Aghnides, *pp.* 500–521.

[58] *Indian Antiquary* 1905, *p.* 10; Law, 161–162.

the ruling that lands could be sold by cultivators only to cultivators, and that persons enjoying revenue-free lands could sell them only to persons who already had such lands. The distinction between crown lands and private lands is also to be noted in the law of escheat. By the general law on the subject the rights of ownership over houses, fields, gardens, tanks and temples were forfeited if proprietors took no cognizance for a continuous period of five years.[59]

In the budget of the Maurya Empire as in that of the Roman we have therefore to look for two entries, theoretically considered, under land revenue. The first was rent paid by the *ryot* or tenant to the state-landlord, the second was a "direct tax" paid by the citizen to the government. The imperial demand from land was very high, higher even than what we have seen under the Cholas. For the land alone,[60] where irrigation was carried on by hand, the due was one-fifth of the yield. Where irrigation was carried on by conveying water on shoulders or through water raised from tanks, lakes and streams the due was one-fourth, and where irrigation was carried on by "pumping" water from rivers (*sroto-yantra*) the due was one-third. An additional *udaka-bhâga* or water rate was charged by the government at one-fourth or one-fifth of the produce. The total rates ranged, therefore, from two-fifths or 40 per cent to seven-twelfths or about 57 per cent of the gross outturn. Provisions for the remission of taxes are recorded, but it was not done on any *doctrinaire* principle. Abatements were graduated according to the difficulties and cost of improvement effected by cultivators.[61]

Gardens were assessed at the same rates as cultivated lands. An additional one-sixth or $16\frac{2}{3}$ per cent had to be paid as excise on sales.[62]

Important taxes of the Mauryas were twofold: customs and excise. Along with land revenue these must have constituted the mainstay of their finance. In Athens[63] under Pericles the policy of free trade appears to have been adopted, as the city depended for its food supply on external sources. Its normal customs duty was, therefore, as low as 2 per cent. The Roman *portoria*[64] (customs dues) were higher, the earliest maximum being 5 per cent. The extreme maximum under Constantine was $12\frac{1}{2}$ per cent. But the Maurya tariff was high enough to verge on, nay, actually establish, an economic "protection." Thus, in regard to imported salt the empire demanded, in the first place, one-sixth or $16\frac{2}{3}$ per cent of the entire commodity, and in the second place, a 5 per cent as trade or sales tax on the remaining five-sixths.[65] Similarly foreign liquors, wines and intoxicants had to bear heavy import duties which varied from one-fifteenth or $6\frac{2}{3}$ per cent to one-tenth or 10 per cent of their value.[66] In both cases, in addition to the tariff the government charged an extra duty in order to compensate the loss in the sale of local produce. Probably the total maximum may have approached the British customs rate which though down to 1700, not generally higher than 5 per cent, rose to 25 per cent by 1759.[67]

The normal Maurya duty on foreign

[59] *Indian Antiquary*, 1905, *pp.* 9, 105, 113.

[60] *Ibid.*, *p.* 110. Note the 50 per cent in Moslem theory, Aghnides, 529.

[61] See details, *Ibid.*, *p.* 9.

[62] *Ibid.*, *p.* 114.

[63], [64] *Encyclopedia Britannica* ("Finance"). For a detailed account of Athenian finances see Schömann, *pp.* 432–464.

[65] *Indian Antiquary*, 1905, *p.* 53.

[66] See details, *Ibid.*, *pp.* 50, 55.

[67] Dowell's *History of Taxation and Taxes in England*, Vol. I, *pp.* 82–88, 145–146, 163–167, 211–223; Vol. II, *p.* 37.

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goods was one-fifth of their value; that is, 20 per cent. One-sixth; that is, 16⅔ per cent was realized from fresh fruits, vegetables, pepper, dried fish, flesh and other perishable goods. The rates on conches, diamonds, pearls, etc. were to be fixed at the custom house by experts. Silk garments, arsenic oxide, skins, carpets, etc. were charged *ad valorem* from 6 per cent to 10 per cent. The minimum rates on the tariff schedule were 4 per cent to 5 per cent. In order to be consistent, the empire dealt severely with all cases of smuggling. The highest fine of 3,000 *panas* or $750 was the punishment prescribed for this offense by the penal code.[68] No figures are available as to the gross customs receipts, but it may be surmised that the 27 per cent of the total German imperial revenues as accruing from customs duties alone would not have been envied by the Maurya finance minister.[69]

It might seem as if the empire intended almost to place an embargo on foreign import, but there were certain tendencies in the fiscal policy of the Mauryas in regard to international trade that indicate a different character of the tariff. The protective duties were high, but they were not meant to be "prohibitive." On the other hand, there was a deliberate attempt on the part of the authorities to encourage foreign imports. They regulated the prices[70] in such a way that a reasonable profit was assured to the dealer in imported goods. If necessary, special instructions were issued to the proper officials to accord concessions in certain particulars to foreign merchants. Under these conditions it is doubtful if the Maurya tariff should be considered as "protective" in any significant sense. In any case its character as a measure for revenue purposes is unquestionable.

The duty of one per cent on all sales was a regular tax of the Roman Empire. Such an impost, call it market due, toll or octroi, was, as we have noted, prevalent in Athens also. The rates in Maurya India were much higher. Commodities sold by cubical measure were charged six and one-fourth per cent, those by weighing five per cent and those by computation nine and one-eleventh per cent *ad valorem*.[71] This tax, known by the generic name of excise or inland trade revenue, was assessed by the Mauryas in two ways. In certain lines, as with salt and precious metals, they retained the monopoly of manufacture and sale for the government, but the general method of assessment was the grant of a license to the vendor or manufacturer.

The excise branch of the revenues was thoroughly centralized. The licensing procedure was most efficiently observed. Nobody was permitted to sell the goods at the places of growth or manufacture; for example, fields, gardens, forests and mines.[72] All commodities had to be brought to the customs house or toll office near the city gate. These were then marked with the state stamp called *abhijnâna-mudrâ* (mark of identification) in *sindura* (vermillion or red lead). The tax was levied, however, only after sale. The law was very strict, as evasion of the tax was a

[68] *Indian Antiquary*, 1905, *pp*. 49–50. The fine for smuggling according to United States law is as high as $5,000 or imprisonment for two years, or both; cf. Higginson's *Tariffs at Work*, *p*. 112.

[69] Plehn, 184.

[70] *Indian Antiquary*, 1905, *p*. 57. Note the seven distinct expenses of marketing: *shulka* (toll), *vartanî* (road cess), *ativâhika* (conveyance cess), *gulma-deya* (duty payable at military stations), *târa-deya* (ferry charge), *bhaktâ* (porter's wage), and *bhâga* (share of the state) that were calculated by the customs officials in fixing the price of the imported commodities.

[71] *Ibid*., *loco citato*.

[72] See details, *Ibid*., *pp*. 50, 114.

capital offense. False statements to the officials made by merchants in regard to amount or price were, besides, punished as cases of theft; that is, by fine, mutilation or even death.[73]

It is evident that customs and excise receipts of the Maurya Empire were much more voluminous than those of the Roman Empire. Analogues for this aspect of Hindu finance have to be sought in the modern states, like England, Russia and France, where half of the national revenues is made up of the returns of customs duties and excises, or in the United States where virtually the whole of "federal" revenues is derived from these two elements.[74]

Recent authorities on the shifting of taxation are, for practical considerations, inclined to do away with the formal or verbal distinction that economists have long recognized between the taxes on consumption (like customs and excise) and the taxes on property or income.[75] Using the conventional nomenclature, we have to mention that in addition to customs and excise, the so-called "indirect" taxes, the Maurya Empire levied "direct" taxes also. It has already been pointed out that a great part of the land revenue was a direct tax on real estate insofar as land was the private property of citizens. The taxes on personalty or movable property have now to be enumerated.

In Kautilya's list we do not have the taxes on looms, oil mills, etc. that are mentioned in the Chola inscriptions; nor do the Tamil taxes on "sonship" or inheritance and succession appear in the Maurya statements, but, as we have seen, weights and measures were taxed.[76] Gamblers had to pay a license.[77] Dramatists, players, singers and musicians were charged five *panas* ($1.25).[78] A tax was levied from prostitutes as in Athens[79] and in Rome under Caligula.[80] As a rule, cattle were not taxed per capita. They figured in the *samâhartâ's* (collector-general's) books only in connection with excise on sale. Under abnormal conditions, when an emergency finance was the problem, a special due was charged on domestic quadrupeds.[81] The same circumstances brought painters, sculptors and artists generally within the tax collector's grip.[82]

It seems, on the whole, however, that the Mauryas considered the taxes on property rather as a safety valve to fall back on in dire necessity than as a normal source of regular imperial revenues. When the necessity arose (through war conditions) the empire did not hesitate to levy what were virtually "super-taxes" on both immovable and movable properties of the wealthier classes. In the first place, the rates of land tax were enhanced,[83] but regions barren or difficult to cultivate were exempted from emergency taxation. Persons engaged in "essential industries," for example, in agriculture, forestry or elephant training were likewise granted a privilege. In the second place, contributions in "services" were levied from "lacklanders," especially from culprits and bad characters.[84]

In the third place, persons rearing

[73] See details, *Ibid.*, *pp.* 48–49; *Artha-shastra*, II, xxxv, xxxvi.

[74] *The Statesman's Year Book.*

[75] Giffen's article on "Taxation" in the *Encyclopedia Britannica* (*The Different Kinds of Taxes*); Seligman's *Shifting and Incidence of Taxation* (1902), *pp.* 310–311.

[76] See details, *Indian Antiquary*, 1905, *pp.* 50–51.

[77], [78] *Ibid.*, 58.

[79] Schömann, *p.* 449.

[80] Seligman's *Essays*, *pp.* 36, 37.

[81] *Indian Antiquary*, 1905, *p.* 114.

[82] *Ibid.*, *p.* 59.

[83], [84] See details, *Ibid.*, *p.* 115; also *Indian Antiquary*, 1909, *pp.* 260–261; *Arthashastra*, V, ii.

pigs and cocks had to contribute 50 per cent of their stock. Those who had sheep and goat farms were taxed $16\frac{2}{3}$ per cent, and herdsmen who reared cows and buffaloes ten per cent.[85] In the fourth place, a special levy of 500 *panas* ($125) was raised from merchants in diamonds, horses and elephants. Dealers in cotton goods had to pay 400 *panas*, dealers in grains and liquids 300, traders in glass and glassware 200, artisans and carpenters 100, and dealers in mudpots, inn-keepers and small retailers 50.[86] In the fifth place, dramatists (and theater managers) as well as prostitutes had to surrender half their annual earnings.[87] And lastly, as in Athens,[88] the government exacted extraordinary donations and gifts from temples and religious establishments.[89] The process might almost be described as a legalized looting of ecclesiastical property by the secular authorities.

Some of the war taxes were described by Kautilya euphemistically as *pranaya* or "love" gifts.[90] The empire used to pose as "beggar" and appeal to the "patriotism" of the citizens for "voluntary" subscriptions. In order that the "modernism" of Maurya finance may be appreciated still further it has to be pointed out that titles of honor were conferred by the government on the patriotic contributors. Subscribers to the "liberty fund" were honored, for instance, "with a rank in the court, an umbrella, or a turban or some ornaments in return for their gold."[91] Furthermore, the government took special steps to advertise and give publicity to the donations of the patriots in order to create a spirit of rivalry among the rich in the acts of self-sacrifice.

It was not with an alleged Machiavellian wickedness, but in quite the scientific way of "high finance," that Kautilya approached the problem of financing a war. The financial heads of the Maurya Empire knew how to cause the rich to "vomit" (*vamana*) their accumulated wealth or otherwise deplete and drain (*karshana*) them of their property.[92] Exploitation of the "gold lords" by the state was a process of expropriation that the *Arthashastra* does not hesitate to pronounce as the objective of the "Ways and Means" Committee. Like the "liturgies" and *eisphora* of the Athenian city state[93] high imposts of various denominations were, therefore, borne by people of large incomes in Maurya India. The impact of war finance must have tended to make the demands of the state even in normal times "progressive" in spirit, if not mathematically so.

We shall now consider the "non-tax" revenues of the Maurya Empire. These were principally of two classes: one derived from the penal power of the state and the other from the economic activities of the government. The empire as a *danda*-wielding or "sanction"-exercising organization must have realized an enormous amount from fines, as these were the usual penalties inflicted by the courts of justice. The list of "crimes" was lengthy. The arms of law could reach almost any individual. Dealers in foreign goods had as many chances of transgressing the laws as the butchers in municipal areas. The number of

[85], [86], [87] See details *Ibid.*, *p.* 116. See Gupta's "Courtesanship in Buddhist India" in the *Hindustan Review*, Allahabad, August, 1919.

[88] Schömann, *p.* 454.

[89] *Indian Antiquary*, 1905, *p* 117.

[90] *Ibid.*, *pp.* 115, 117; *cf.* "benevolences" in British fiscal history, Dowell, Vol. I, pp. 155–157, 202–203, 243.

[91] *Ibid.*, 1909, *p.* 261; *Arthashastra*, V, ii.

[92] *Arthashastra*, IV, iii.

[93] *Encyclopedia Britannica* (Finance).

offenses against sanitary laws[94] was as large as that against the prescribed hours and places of fording rivers.[95] Persons committing nuisance on roads and other specified spots were fined one *pana* (twenty-five cents). Travelers without passports (bearing government stamps) had to pay a fine of 12 *panas*.[96] Bearers of false or forged passes were fined 1,000 *panas*. No foreigners were admitted into the country without permit. Delinquents had to pay a fine of 3,000 *panas*, the highest fine[97] sanctioned in Maurya legislation. This was the fine also meted out to those who tried to smuggle foreign goods in evasion of customs duties.[98] Negligence in having the day's government stamp fixed on weights and measures was fined 27¼ *panas*.[99] A fine of 600 *panas* was inflicted on the merchant who having imported foreign salt failed to compensate the government for the loss it might incur in not finding customers for its own salt.[100]

The second head of non-tax revenue comprises the items of income that the empire derived from its economic enterprises. Shipping lines[101] with fleets of boats for passengers and goods were maintained by the state. The traffic by sea was large enough to render the undertaking a lucrative proposition. The empire carried on another business under the supervision of the naval department. State boats were let out on hire by the *nâvadhyaksha* or port commissioner for purposes of pearl fishery and the fishing of conch shells.[102] The ferry charges on rivers must also be considered in connection with the government's commercial ventures. These were regulated according to the size of rivers and the amount of freight carried.[103] Any load of commodities whether for sale or not was charged four *mâshâs* (about six cents). One *mâshâ* was paid by a traveler with a minor quadruped carrying some load. Two *mâshâs* were demanded for a load carried on the head or on the shoulders, a cow or a horse. The rate was double for transporting a camel or a buffalo. The ferry charge for a small cart was five *mâshâs*, for one of medium size drawn by bulls six *mâshâs*, and for a big cart seven *mâshâs*. The ferry dues for large rivers were twice the respective rates.

By far more important than these quasi-political commercial undertakings as sources of "sinews of war" were the industries owned and run or controlled by the government. Altogether three state monopolies are mentioned in the Kautilyan schedule. The first monopoly was oil. The oil seeds were all brought to the government granary and pressed and made into oil by the state mills.[104] The administration of tobacco monopoly in France since the time of Colbert (1674) furnishes a modern analogue. The next monopoly was salt as we have mentioned above. In order to "protect" this government industry the empire legislated that purchasers of foreign salts must pay compensation to

[94] See the list of fines in municipal areas in the *Indian Antiquary*, 1905, *pp.* 51–52; also in regard to the construction of buildings, *pp.* 58–59. *Vide* the fines realized from slaughter houses, *p.* 55.

[95] See the ferry regulations, *Ibid.*, *p.* 111.

[96] *Vide* the passport regulations in regard to travelers, *Ibid.*, *p.* 54, and in regard to traffic in goods, *pp.* 47–48.

[97] *Ibid.*, *pp.* 51, 52.

[98] *Ibid.*, *pp.* 48–50.

[99] *Ibid.*, *p.* 51.

[100] *Ibid.*, *p.* 54.

[101], [102] Mookerji, *pp.* 103, 106. Note *en passant* the regulations to protect passengers on ships run by private companies, *Indian Antiquary*, 1905, *p.* 113.

[103] *Ibid.*, *p.* 107; *Indian Antiquary*, 1905, *pp.* 53, 111–112; 16 *mâshâs* = 1 *pana*.

[104] *Indian Antiquary*, 1905, *p.* 55.

cover the loss sustained by the state.[105] Evidently foreign salt was not excluded altogether from the territory. There was, besides, the system of granting licenses by which private capitalists could manufacture and sell the commodity. In addition to the economic "profits" from the salt industry the government thus came to realize a large revenue from the customs, excise, and licenses. The realization of salt *gabelle* was threefold. First, the importing merchant had to pay the regular 16⅔% in kind as customs *plus* the 5% on the remainder as excise. Secondly, the indigenous manufacturer purchased license from the government on the same terms. There was thus no economic discrimination against foreign salt. The effects of a countervailing excise duty were brought in operation indicating the "fiscal" character of the tariff. And thirdly, it appears that the government charged 13⅛% as premium on the money that it received as price for the salt collected from the importer and the home manufacturer.[106]

The most important monopoly of the Maurya Empire was the mines and minerals. Indeed the manufacture of salt was scheduled in the *Arthashastra* under the category of mining. As defined by Kautilya, mining was a comprehensive term including, as in medieval British law, "wreck of the sea and royal fish."[107] There were, therefore, two branches of mining under the Mauryas: (1) ocean mining, that is, pearl fishery, the fishing of conches, shells, and corals, and manufacture of salt, and (2) land mining.[108] The revenues from land mining were described as those accruing from gold mines, silver mines, mines of rubies and metals such as iron, copper, etc.[109]

In ancient and medieval legislation or custom mines were "public" everywhere.[110] The silver mines at Laurium were owned by Athens. Mines were state property under the Roman Empire. Down to 1688 all English mines belonged to the crown. In 1568 the Exchequer Chamber stated the theory that the "King shall have the whole of the base metal."[111] Under the Mauryas also both land and ocean mines as well as the essaying of ores, coining, and commerce in minerals were *jura regalia* or crown rights *sui generis;* but they were not worked by the government except when the operations needed small outlay. Modern advocates of modified *laisser faire* may quote the Maurya precedent as an instance of the "individualistic minimum" of state intervention in industry. As a rule, the empire let out the mines on royalty basis to private enterprise. The royalty included nine distinct items.[112] As usual, the rates were high. The rental for the Laurium mines was only 4⅙ per cent.[113] The French mines yielded 10 per cent.[114] The English rate on copper was 12½ per cent to the state *plus* 11⅓ per cent to the landlord,[115] but the Mauryas demanded 16⅔ to 20 per cent as *vibhâga;* that is, the government's "share" in the yield. In addition the capitalists had to pay 13⅛ per cent *plus* 5 per cent as sundry charges.[116]

There may have been some other industries similarly undertaken or let out on license with a view to augment-

[105] *Indian Antiquary, 1905, p.* 54.
[106] *Ibid., p.* 53.
[107] Palgrave's *Dictionary*, Vol. II, *p.* 765.
[108] Law, *pp.* 5–10.

[109] *Indian Antiquary*, 1905, *p.* 47.
[110] For "state mines" *vide* Bastable's *Public Finance, pp.* 174–176.
[111] Palgrave, *loco citato.*
[112] *Indian Antiquary*, 1905, *p.* 113.
[113] *Schömann, p.* 448.
[114] *Brissaud, p.* 487.
[115] Palgrave, *loco citato.*
[116] *Indian Antiquary*, 1905, *p.* 113. (Islamic law has 20 per cent, cf. Aghnides, p. 528.

ing the public income. The ship-building and munition industries were, of course, state monopolies, as has been mentioned above. Obviously they are to be regarded not so much from the standpoint of finance as of national defense.

Several miscellaneous taxes remain to be discussed as minor sources of revenue. The port duties[117] realized by the *nâvadhyaksha* were distinct from both customs and excise. Villages on sea shores and on the banks of rivers and lakes were assessed at certain rates. The fishing license demanded by the state was one-sixth or 16⅔ per cent of the actual haul. Merchants had to pay the customary tax of port towns. Another group of minor collections came from currency. A premium of 13⅛ per cent was regularly charged on coins of private or foreign mintage.[118] The same amount was also realized by the government on every occasion that anybody had to pay a fine in cash.[119] Lastly, we have to mention the escheats. Houses, fields, gardens, tanks and temples lapsed to the state, as we have seen, if the proprietors neglected to exercise their rights of ownership for five years.[120] Similarly the government was the heir of the property of prostitutes in the absence of daughters.[121]

No conceivable resource of the people appears to have been left untapped by the Maurya Empire. The all-reaching tentacles of Hindu finance lie on the surface. If, as Adam Smith remarks, there be nothing in which governments are so prone to learn of one another as in the matter of new taxes, the first and the last empires of pre-Moslem India can still give points to the latest specialists in public finance, for the methods and principles of statesmen from Kautilya to Kulottunga were eminently realistic. With the exception of stamp duties, national debt, postal receipts and a few other characteristically modern duties, the assets schedule of the first class powers of today can hardly exhibit any taxes and non-tax revenues in addition to what the Hindu *sumantra* (finance minister) and his board of experts hit upon pragmatically in the third and fourth centuries *B. C.* in order to "cover" the appropriations on the governmental machinery of the largest and most extensive of all empires in the world's history.[122]

## THE ABILITY TO PAY

A study of the finances provokes naturally the correlated investigation into the general economic condition of the empire. But as yet it is hardly allowable to attempt a wide solution as to the "ability" of the people to meet the diverse demands of the government. In the first place, an enormous rise in prices may be postulated because of the high rates of customs and excise. This was sure to be felt by the entire community as consumers. In the second place, the normal land tax of 40 per cent to 57 per cent, though it may not have shorn the land-owning or agricultural classes to the skin, was certainly not a moderate

[117] Mookerji, *p.* 106.
[118] *Indian Antiquary*, 1905, *p.* 53.
[119] *Ibid.*, *p.* 54.
[120] *Ibid.*, *p.* 9; cf. Manu, VIII, 30.
[121] *Ibid.*, *p.* 57.

[122] See the map of the Maurya Empire in the third century *B. C.* facing *p.* 162 of Smith's *Early History*. Compare the area with that of any of the European empires in Freeman's *Historical Geography of Europe* (with Atlas) or specifically with that of the Roman Empire at its greatest extent (third century *A. D.*) in the *Atlas of Ancient and Classical Geography* (Everyman's Library Series). Note, in comparison, that India is all Europe minus the Russia of the Czars, and that Maurya India, though it excluded the southern fringe of the peninsula, included the whole of Afghanistan and Baluchistan.

levy. In the third place, the traders and the intellectual middle classes could not get scot free from the imperial demand, as the property tax was mercilessly applied to them especially in emergencies. And in the fourth place, the moneyed aristocracy, bankers, gilds and other wealthy groups had to "vomit" out their gold at the call of the empire.

Economically speaking, there was no class discrimination. The empire maintained no privileged class on anything like an appreciable scale; nor would the government demands, though heavy, appear to have been oppressive or likely to sap the economic foundations of the society. On the contrary, there were certain distinct services by which the state sought to develop the "staying power" and taxable capacity of the people. We have spoken above of the socialistic trend of Hindu states as *dharma*-states, insofar as the sphere of their activity was co-extensive with the range of human interests. It is necessary now to note that the same tendency is noticeable in two other directions.

In the first place, the Maurya Empire owned several industries and controlled the production of wealth in certain lines. Government supervision of some sort or other brought the economic activities of the people within the compass of partial "public ownership." The consequent abolition of *entrepreneurs* or middlemen in a few channels of business was a positive advantage to the community. In the second place, the empire sought to regulate by legislation the more important branch of a nation's economic life; namely, distribution and exchange or value. The maximum rate of interest was determined by the government.[123] The market was protected from the ravages of "profiteers." Reasonable prices and fair profits were fixed by official experts after calculating the legitimate expenses of production (including the cost of marketing).[124] The government scheduled also the rates of wages and fees for laundry men, painters, dramatists, singers and artists.[125]

Such an imperial intervention in economic life, or what is the same thing, such "state socialism" under "enlightened despots," must have been appreciated at least by the common laborer. The rate of wages in Maurya India was 5 *panas* a month or 15 dollars a year.[126] It is interesting to observe that in Chola India in the eleventh and twelfth centuries a temple janitor earned Rs. 8⅓ per month; that is, 30 dollars a year.[127] These rates were much above the Ricardian "iron law of wages" when compared with the current prices and the purchasing power of money during the two periods.[128]

As for the salaries paid by the government, they were liberal enough to satisfy the officers' appetite. They were, humanly speaking, calculated to prevent the desire for "squeeze."[129] The common soldier of the Maurya Empire received 500 *panas* or $125 per year. The highest salary in the third and fourth centuries *B. C.*, for example, that for the generalissimo was 48,000 *panas* ($12,000) a year. The *samâhartâ* (collector-general) was paid at half this rate. The earning of a

[123] The rate was 15% per year, cf. Law, *pp.* 171–177. The usual rate at Athens was 12% to 18%. *Vide* Schömann, *p.* 435.

[124] See details in the *Indian Antiquary*, 1905, *pp.* 55, 56, 57.

[125] *Ibid.*, *p.* 59.

[126] *Ibid.*, *p.* 53.

[127] Aiyangar, *p.* 181.

[128] *Indian Antiquary*, 1905, *p.* 53; One Rupee in Maurya India bought 49½ *sers* (Madras) of rice. In British India one Rupee buys not more than 6–7 *sers*. Aiyangar, *p.* 183.

[129] *Vide* the list of salaries in the *Arthashastra*, V, iii, *Indian Antiquary*, 1909, *pp.* 263–264.

middle class man in southern India, for instance, an accountant under the Cholas was Rs. 16⅔ per month, that is, $60 a year.[130] Payments were either in kind or in money. The Cholas used to pay even handicraftsmen often in land for customary work. Under the Mauryas payment in gold might be commuted for that in kind at fixed rates.[131]

We are not concerned here with "index numbers" or with statistics of wages and prices or with the manner in which the tariff, if it was really protective, may have affected the course of industries and commerce. The stray figures for the third and fourth centuries *B. C.* and the eleventh and twelfth centuries *A. D.* may be taken for what they are worth. Only it is necessary to bear in mind that in British India the average per capita income is Rs. 20 or $6 per annum. On the whole, it may reasonably be concluded that the financial burden of *pax sârva-bhaumica*, howsoever heavy it might be, whether absolutely or relatively, was easily borne by a contented peasantry and working class, a prosperous industrial and commercial aristocracy, and last, but not least, a well-paid civil service and army, especially in view of the fact that under Chandragupta and Asoka (third century *B. C.*) the people of India had the conscious satisfaction of being citizens of the first and greatest power of the world.

[130] Aiyangar, *p.* 181.

[131] *Indian Antiquary*, 1909, *p.* 264. For 5 *panas* one obtained 165 *sers* (Madras standard). *Indian Antiquary*, 1905, *p.* 53.

# Have American Wages Permitted an American Standard of Living? *

## A Review of the Important Inquiries and Their Findings, 1890–1920

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At no time before, probably, has there ever been greater popular confusion and obscurity as to what constitutes an American standard of living and what is the relation of wages earned and the standard of living necessary, as at this period. Indeed, the controversy between capital and labor in regard to this question at this time is becoming very grave, and is fraught with the utmost danger. Industrial concerns and railroad companies are daily announcing reductions in wage rates, justifying these on the ground that prices have come down so much during the past year that there is no excuse for the "high wartime" wages. On the other hand, the employes are, with rare exceptions, vehemently and vigorously opposed to the present methods of arbitrary wage cuts, contending that there has as yet been no substantial decrease in the cost of living which would justify cutting the rates of pay. They furthermore point out that as most of the reductions at this time are made in the rates of the unskilled workers it will reduce these workers again to the prewar level of wages which were found in many instances to have been below the American standard of living. They demand

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a wage compatible with the subsistence standard set by government authorities and competent students as necessary to support a family consisting of the father, mother and three small children, with the absolute necessities of life.

What has been the relation of the wages earned and the minimum standard of subsistence in the past? Doubtless this question has often been asked before. Unfortunately, however, while many local and national investigations have been made of costs of living and wages in the United States, the great majority of these have covered but short periods. Compilations of these studies for a number of years have been few in number. In the article that follows, an effort has been made to present a summary of the results of official and authoritative investigations on standards of living and wages earned covering a period of thirty years—from 1890 to the latter part of 1920. The findings of these investigations and the relation of the costs of living and wages earned is presented here for each year. It is hoped that an analysis of these facts may help to shed some light upon this important and very much mooted question.

Professor John A. Ryan in his book, *A Living Wage*, made an exhaustive and careful study of the Census Reports of 1890 and 1900, as well as of numerous other statistical reports prepared by the federal and various state labor bureaus, regarding wages and the cost of living during the last decade of the nineteenth century and the beginning of the twentieth century. His studies of the cost of living during that decade convinced him that:

> The conclusions that seem to be abundantly justified by the facts brought out may, therefore, be stated as follows: first, anything less than $600 per year is not a Living Wage in any of the cities of the United States; second, this sum is probably a Living Wage in those cities of the Southern States in which fuel, clothing, food and some other items of expenditures are cheaper than in the North; third, it is possibly a Living Wage in the moderately sized cities of the West, North and East; and fourth, in some of the largest cities of the last-named regions, it is certainly not a Living Wage.[1]

In addition to Professor Ryan's estimate, the United States Bureau of Labor in 1901 studied the incomes and expenditures of 25,440 families whose average size was 4.88 persons. This investigation showed that it cost at least $700 on the average to support each of these families.[2]

After he had established his standard, Professor Ryan made a further study of wage reports and, taking his estimate as the minimum basis, presented the table of underpaid workers in the different industries on page 171.

The important feature of the table, summarizes Professor Ryan,

> Is the percentages, which may be taken as fairly representative of average wage conditions in manufacturing and railway industries. And the general level of remuneration in these two fields is undoubtedly quite as high as the average of the other urban occupations. It is to be noted, moreover, that these percentages reflect the conditions of 1890 and 1900–1903, when wages were about as high as they are at present (1905) fully as high as the average of the last fifteen years, and higher than that of the last twenty-five years.[3]

During the same period, according to Streightoff,[4] the yearly remuneration of the garment makers in 1894 in New York ranged from $249.94 for knee-pants-makers to $402 for cap-makers; and the male machine operators and

[1] John A. Ryan, *A Living Wage*, p. 150.

[2] Maurice Parmelee, *Poverty and Social Progress*, p. 87.

[3] *Ibid.*, p. 161.

[4] *The Standard of Living*, by F. H. Streightoff pp. 60–63.

| *Employes and Years Represented* | *Number of Adult Males Represented* | *Per Cent of Adult Males Under-paid* |
|---|---|---|
| In 50 manufacturing industries in 1890 .... | 757,865 | 51 |
| In iron and steel, 1891 .......... | 17,650 | 81 |
| In railway occupations, 1889 .......... | 206,604 | 85 |
| In 34 manufacturing industries, 1890 ...... | 93,544 | 66 |
| In 34 manufacturing industries, 1900 ...... | 142,638 | 64 |
| In railway occupations, 1900 and 1903 ..... | 2,125,717 | 72 |
| In manufacturing, Mass., 1890 and 1891 .... | 367,311 | 59 |
| In " Wis., 1891 .......... | 70,326 | 61 |
| In " Minn., 1899 and 1900 ... | 99,872 | 53 |
| In " Mass., 1899 and 1900 ... | 511,727 | 64 |
| In " Wis., 1899, 1900, 1901 .. | 217,522 | 75 |
| In " N. J., 1899, 1900, 1901 .. | 387,903 | 60 |
| In " Ill., 1900 and 1901 ...... | 135,890 | 58[5] |

handworkers of Chicago earned, on the average, $430 and $325 respectively, the average recompense of all male workers in the cloak-making trades being $330.42. In 1900, in North Dakota, of the 2,168 men investigated, the wages averaged $535; Minnesota recorded 66,889 workmen at an average of $492; and Wisconsin 120,131, at $449. In the same year the average earnings of male cotton operators was $405.69 in Massachusetts, $243.34 in Georgia, $216.39 in North Carolina, and $207.58 in South Carolina.

In analyzing the labor reports of the states of New Jersey and Massachusetts for 1901, Streightoff found that 64.75 per cent of all adult male factory employes in the manufacturing industries of the former state and 62.86 per cent of the male employes in similar industries in the latter state earned less than $12 per week, or approximately $600 per year.[6]

A study of family incomes made by the Massachusetts Bureau of Statistics of Labor in 1902 revealed that it cost on the average about $800 to support each of these families, whose average size was 4.8 persons.[7] In the same year also the New York Bureau of Labor Statistics estimated that an income of $10 a week, or $520 a year was inadequate for a family living in a city.[8]

From the 1902 reports of the labor bureaus, Streightoff[9] found that 62.51 per cent of the male employes in the manufacturing industries in New Jersey, and 61.35 per cent of male employes in Massachusetts earned less than $12 a week or approximately $600 per year. The Indiana returns for the same year showed the average earnings of pumpmen as $2.20 per day, while that of trappers who worked only 215 days in the year was $1.13 per day. Professor Ryan also points out that the Interstate Commerce Commission's reports for the year 1903 revealed that 72 per cent of the more than two million railroad employes investigated earned less than $600 per year.

In 1904 Robert Hunter stated that:

> It was shown by the Massachusetts Bureau of Statistics that it takes $754 a year for a family of five persons to live on. John Mitchell has said that a minimum wage of $600 a year is necessary in the anthracite district for a worker with a family of ordinary size. The New York Bureau of Labor considers that $10 a week or $520 a year is inadequate for city work-

[5] *A Living Wage*, p. 160.
[6] *The Standard of Living*, Appendices A and B.
[7] *Poverty and Social Progress*, p. 87.
[8] *Ibid.*, p. 88.
[9] *The Standard of Living*, Appendices A and B, p. 61.

men. A prominent official of one of the largest charities in New York City thinks that $2 a day, or about $624 a year, is necessary for a family of five in that city.[10]

From these estimates Hunter expressed the opinion that $624 was not too much for a family in New York City. "When one gets below these figures," he declared, "every dollar cut off may mean depriving a family of a necessity of life, in times of health even, and unquestionably in times of sickness." But in order to be thoroughly conservative he estimated more or less arbitrarily, $460 a year as essential to defray the expenses of an average family,—a father, a mother, and three children,—in the cities and industrial communities of the New England States, of New York, Pennsylvania, Indiana, Ohio and Illinois. "This estimate," he concluded, "would approach very nearly a fair standard for the poverty line; that is to say, if any working-class family should be unable to obtain this wage, they would in all likelihood be unable to obtain the necessaries for maintaining physical efficiency."[11]

One of the most extensive investigations of wages in the United States was made during 1903–1904 by the United States Census Bureau. This investigation covered 3,297,811 wage-earners of whom 2,619,025 or 79.4 per cent were men; 588,599 or 17.9 per cent were women and 90,167 or 2.7 per cent were children. The Census Bureau gives the results below.

The table below indicates that during the period studied, over one-quarter of the male workers were earning less than $8 a week or less than $420 a year; 46 per cent earned less than $10 a week, while over 70 per cent or nearly three-fourths were earning less than $15 a week, or $780 a year. Ninety-eight per cent of all wage-earners earned less than $25 a week. The average for all classes is $10.06, or approximately $520 per year: the average for men being $11.16, for women $6.17, and for children $3.46.

In the same year Streightoff made another estimate of the distribution of income in the United States derived primarily from labor.[12]

EARNINGS OF MALES, SIXTEEN YEARS AND OVER, ENGAGED IN MANUFACTURE IN THE UNITED STATES IN 1904[13]

| *Weekly Wage* | *Number* | *Percentages* *Actual* | *Cumulative* |
|---|---|---|---|
| Under $3 | 56,346 | 2.2 | 2.2 |
| $3 but under $4 | 57,597 | 2.2 | 4.4 |
| $4 " " $5 | 87,739 | 3.4 | 7.8 |
| $5 " " $6 | 103,429 | 4.0 | 11.8 |
| $6 " " $7 | 161,940 | 6.2 | 18.0 |
| $7 " " $8 | 196,981 | 7.5 | 25.5 |
| $8 " " $9 | 207,954 | 7.9 | 33.4 |
| $9 " " $10 | 343,812 | 13.1 | 46.5 |
| $10 " " $12 | 409,483 | 15.6 | 62.1 |
| $12 " " $15 | 450,568 | 17.2 | 70.3 |
| $15 " " $20 | 385,647 | 14.7 | 94.0 |
| $20 " " $25 | 106,046 | 4.0 | 98.0 |
| $25 and over | 51,511 | 2.0 | 100.0 |

[10] Robert Hunter, *Poverty, pp.* 51–53.
[11] *Poverty, pp.* 51–53.
[12] *Poverty and Social Progress, p.* 68.
[13] *Report of Manufactures,* Census Bureau Part IV, *pp.* 645–8, 1905.

| | |
|---|---|
| Approximate number of males, 16 years old or over, employed in 1904 | 19,658,000 |
| Number earning under $600 yearly, or under $12 weekly | 12,738,000 |
| Number earning $600, but under $1,000 yearly, $12 but under $20 weekly | 5,315,000 |
| Number earning $1,000 or more yearly, or $20 or more weekly | 1,605,000 |

On the basis of the above data, Streightoff concluded that in 1904 over 60 per cent of the males, at least 16 years of age, employed in manufacturing, mining, trade, transportation, and a few other occupations were earning less than $626 per annum, or less than $12 per week on an average. Summarizing the official reports which he studied, Streightoff also shows[14] that 46.5 per cent of the Illinois miners earned less than $500 per year. He gives the percentages of adult males, exclusive of officers, clerks and salaried persons, engaged in manufacturing in the same year, whose earnings were less than $12 per week, as 62.35 in Massachusetts; 60.8 in New Jersey; 58.05 in Missouri; 31.15 in Illinois, and 67.95 in Wisconsin.

From an intensive study of the budgets of 200 wage-earning families in New York City during the years 1903 and 1905, Mrs. More concluded as a result of her investigations that "a fair living wage for a workingman's family in New York City should be at least $728 a year or a steady income of $14 a week."[15]

According to the census of manufactures, the 4,244,538 men engaged in manufacturing in 1905 received an average income of $533.95. Of 13,796 railway men in North Carolina, in the same year, 11,295 were found to have averaged less than $1.62 per day or $500 per year. In thirty Maine clothing factories in 1905, 234 men investigated received wages averaging $10.82 per week, while 1,078 women earned a mean weekly wage of $6.78. Of the adult males engaged in manufacturing industries during the same year, 58.5 per cent in New Jersey and 57.09 in Massachusetts earned less than $12 per week.[16]

In concluding his estimates of what constitutes a living wage Professor Ryan states:

> According to careful studies and estimates made by several groups of investigators in 1906, the minimum cost of decent living for a family of moderate size was: In New York, $950; in Chicago, $900; in Baltimore, $750; while the average for these and several other large cities was $938.

Professor Ryan therefore declares:

> The conclusion seems justified that at least sixty per cent of the adult male workers in the cities of the United States are today (1905) receiving less than $600 annually.[17]

During 1906, the percentages of adult male employes engaged in manufacturing industries who earned less than $12 per week were as follows:[18] In New Jersey, 57.49; in Massachusetts, 55.12, while in San Francisco, where wages have always been higher, of all employes, including women and children, in the same year 63.40 per cent earned less than $12 per week. In Indiana during the same year the earnings of railway workers were found as follows: 1,870 conductors earned an average of $1,084.93; 2,287 engineers averaged $1,284.69; 4,408 station men averaged $508.37, and 88,967 track men earned $378.93 each on an average that year.[19] The 30,742 miners in-

[14] *The Standard of Living*, pp. 60–64.

[15] L. B. More, *Wage Earner's Budgets*, pp. 269–70.

[16] *The Standard of Living*, pp. 59–60–62, and Appendices A and B.

[17] *A Living Wage*, pp. 150 and 162.

[18] *The Standard of Living*, p. 64.

[19] *The Standard of Living*, p. 60.

vestigated in Illinois in 1906 worked only 189.6 days during that year and earned on an average of $480.82.[20] Of 9,679 men at work in cotton factories in New Hampshire during the same year the average wage amounted to $417.31.

Little improvement occurred the following year. In 1907, of the adult male factory employes (exclusive of officers, clerks and salaried men) engaged in manufacturing industries in New Jersey, 54.5 per cent of the total earned less than $12 per week, while of those engaged in the same industries in Massachusetts, 51.64 per cent earned a similar wage.[21]

Quite a large number of investigations regarding both minimum standards required and wages actually received were carried on during 1908. The United States Bureau of Labor estimated that in Fall River, Massachusetts, in 1908, the minimum standard of living for an average family could not be less than $484.41 per year. This standard the bureau defined as follows:

> If the family live upon this sum without suffering, wisdom to properly apportion the income is necessary. There can be no amusements or recreations that involve any expense. No tobacco can be used. No newspapers can be purchased. The children cannot go to school because there will be no money to buy their books. Household articles that are worn out or destroyed can not be replaced. The above sum provides for neither birth nor death nor any illness that demands a doctor's attention or calls for medicine. Even though all of these things are eliminated, if the family is not to suffer, the mother must be a woman of rare ability. She must know how to make her own and her children's clothing; she must be physically able to do all the household work, including the washing. And she must know enough to purchase with her allowance food that has the proper nutritive value.[22]

The bureau estimated that a fairer standard of living for Portuguese, Polish and Italian families required at least $690.95, and $731.99 for English, Irish and Canadian-French families. This higher standard, the bureau said:

> Will enable him (the father) to furnish them (his family) good nourishing food and sufficient clothing. He can send his children to school. Unless a prolonged or serious illness befall the family, he can pay for medical attention. If a death should occur, insurance will meet the expense. He can provide some simple recreation for his family, the cost not to be over $15.60 for the year. If this cotton-mill father is given employment 300 days out of the year, he must earn $2 per day to maintain this standard. As the children grow older and the family increases in size, the cost of living will naturally increase. The father must either earn more himself or be assisted by his younger children.
>
> But even this standard is by no means an ideal one. It does not allow savings to meet the contingency of any unusual event, such as lack of employment or accident to the father. It makes no provision for old age. It provides for culture wants only in the most limited manner, viz., one paper costing $1 a year. It provides elementary schooling for the children up to their twelfth year only.[23]

The Massachusetts Bureau of Statistics' investigations during the same year showed that the average wage of all cotton-mill employes in Fall River was only $447.40, quite below even the minimum standard set for the same city.[24] The average remuneration of all the 176,377 anthracite miners in Pennsylvania in that year was $496.13, just above the lowest standard; that of bituminous miners averaged only $447; while the average for all the employes amounted only to $458.29,[25] considerably less than the minimum required. Of the male employes engaged in

[20] *The Standard Living*, p. 61.
[21] *Ibid.*, Appendices A and B.
[22] *Poverty and Social Progress*, p. 89.
[23] *Ibid.*, p. 89.
[24] *Ibid.*, p. 60.
[25] *The Standard of Living*, p. 61.

factories, 56.7 per cent in New Jersey and 51.70 in Massachusetts earned less than $12 per week.[26]

In 1908 the railroads of the United States employed 61,215 firemen at an average per diem compensation of $2.64; 57,668 enginemen at $4.45; 43,322 conductors at $3.81; 114,580 other trainmen at $2.60; 41,419 section foremen at $1.95; 299,448 other trackmen at $1.45; and 46,221 switch tenders and crossing watchmen at $1.78.[27]

In the same year, the New Jersey roads employed some 42,514 men at an average annual wage of $657.22, considerably below the fair standard set for Fall River.

On the basis of numerous statistical reports of wages in Massachusetts during 1908 furnished by the different state bureaus, Nearing concluded that:

It may be fairly stated that no more than one adult male wage-earner in every twenty employed in the industries of Massachusetts receives, in annual earnings, for a normally prosperous year, more than $1,000. On the other hand, more than one-third of all the adult males are paid wages under $500; more than one-half receive wages under $600; while nearly three-quarters receive less than $700 annually.[28]

In cotton goods, the leading Massachusetts industry, Nearing found that wages were very much lower than in the state at large, nearly three-fifths of all the adult male employes having received less than $459 in 1908.

From budget studies made by Dr. R. C. Chapin in 1909, the New York State Conference of Charities and Corrections concluded that:

It is fairly conservative to estimate that $825 is sufficient for the average family of 5 individuals, comprising the father, mother and three children under 14 years of age to maintain a fairly proper standard of living in the Borough of Manhattan.[29]

In 1909, Nearing made a study of wages in New Jersey, similar to that which he had made the year before of wages in Massachusetts, and found that:

For the state of New Jersey at large, and for the five industries employing the largest numbers of persons, it appears that after deducting the known unemployment, between one-third and one-half of the adult males received less than $500 in 1909; that from one-half to three-fifths received less than $600; that about three-quarters were paid less than $750; nine-tenths received less than $950; while from one-twentieth to one-tenth received $950 or over. The wages of adult females were very much lower. From three-quarters to four-fifths received less than $400; nine-tenths were paid less than $500, while a vanishing small percentage received an annual wage of more than $750.[30]

A study of wages in Kansas and of its leading industries in 1909, by the same writer, showed that while the industrial conditions in Kansas differ from those in Massachusetts and New Jersey, about one-third of the male employes in the car and shop construction, and in the slaughtering industries, received less than $500, one-half less than $600 and three-fourths received less than $750 per year. The proportion of females earning less than $520 was exactly twice that of males.[31]

Nearing's conclusions are fully borne out by official investigators. The 1910 census reports give the average number of wage-earners engaged in manufacturing in 1909 as 6,631,931. The total amount spent in wages in those industries during that year was $3,434,-734,000. When this total is divided by

[26] *The Standard Living.*, Appendices A and B.
[27] *Ibid.*, p. 61.
[28] Scott Nearing, *Wages in the United States*, 57–58.
[29] R. C. Chapin, *The Standard of Living Among Workingmen's Families, in New York City*, p. 281.
[30] *Wages in the United States*, p. 72.
[31] *Wages in the United States*, pp. 85–87.

the average number of wage-earners the quotient is $517.91, which was the average wage during that year and which is below $10 per week.

The United States Department of Agriculture also gave the farm wages during the year 1909. Farm labor by the day in the lowest type of work averaged $1.71 in 1909, outdoor farm labor with board averaged $1.43 a day, while the average monthly wage for outdoor farm labor quoted for the year without board was $25.46 or $305.52 per year.[32]

In 1910, after a most exhaustive study of wealth possessions, Dr. Willford I. King estimated that 95 per cent of the families of the United States had incomes of less than $2,000 a year; 82 per cent had incomes of less than $1,200; while 69 per cent were living on less than $1,000.[33]

An elaborate Congressional investigation of the iron and steel industry in the United States, covering 172,706 employes, found the wage rates per year as per May, 1910 as follows: 8 per cent earned under $500, 60 per cent under $750, 85 per cent under $1,000, and 97 per cent under $1,500. The separate rates of the employes of the Bethlehem Steel Company during January of that year were found to be less than $500 per year in one-third of the cases; less than $625 in two-thirds, while only 8 per cent averaged $1,000 and over.[34]

The census reports also show that in 1910 the average number of wage-earners engaged in mining industries was 1,093,286. The total wages earned by them was $606,135,238. The average wage secured when the total sum earned is divided by the total number of workers is $554.42, or $10.66 per week.

From the exhaustive studies made by Streightoff of incomes and actual expenditures in different parts of the country, he presented for 1911 the following minimum of expenditures necessary for a family consisting of a husband, a wife, a boy between 11 and 14, a child between 7 and 10, and a baby under three. These expenditures obviously include only a minimum of the most essential necessities:

| | |
|---|---|
| Food | $297 |
| Rent | 100 |
| Clothing | 120 |
| Fuel | 40 |
| Church and other organizations | 20 |
| Medical attention | 12 |
| Amusement | 20 |
| Miscellaneous | 40 |
| | $649 |

Mr. Streightoff concludes that:

> The above would show that it is conservative to set $650 as the extreme low limit of a Living Wage in cities of the North, East, and West. Probably $600 is high enough for the cities of the South. At this wage there can be no saving and a minimum of pleasure. Yet there are in the United States at least five million industrial workmen who are earning $600 or less a year.

Streightoff then calls attention to the fact that:

> It will be remembered that 1,116,199 men engaged in manufacturing alone are earning no more than $400 per annum, and 2,009,914 are receiving no more than $500. If all industrial occupations are considered, probably four million men are not enjoying annual incomes of $600.[35]

During the period of 1911–12, a number of wage studies were brought out by the United States Department of Labor. In the cigar industry studied in that period, of 3,615 males investi-

[32] United States Dept. of Agriculture, Bureau of Statistics, *Bulletin 99*, 1912.

[33] W. I. King, *Wealth and Income of the People of the United States*, pp. 214–230.

[34] Scott Nearing, *Income*, p. 90.

[35] *The Standard of Living*, p. 162.

gated, three-tenths received a wage of less than $750, while half of these studied earned wages under $1,000 per year. Four-fifths of the 7,551 females investigated received a wage of less than $750 per year.[36]

The Tariff Board made extensive investigations during the same period of wage rates in the cotton industry. These studies disclosed that in the North, 5 per cent and in the South, 22 per cent of the males 16 years of age and over in the cotton industry received a wage rate of less than $250 per year. Half of the employes in the North and more than four-fifths of those employed in the South were paid at the rate of less than $500 per year. The figures for women range much lower than those for men.[37]

For the dyeing and finishing woolens and worsted industry the Tariff Board reports that four-fifths of the male dyers earned less than $500 and nine-tenths less than $700 per year.[38]

The wages of employes engaged in woolen, worsted and cotton mills of Lawrence, Massachusetts, in 1911 were similar to those found by the Tariff Board. In that city half of the men studied received wages below $500 while seven-eighths earned less than $600. In the case of female employes more than four-fifths earned less than $500, while 94 per cent received less than $600.[39]

The United States Labor Department in its investigations in the textile industry brought out similar results. In the cotton industry three-fifths of the males and four-fifths of the females received wages of less than $500 per year, while 99 per cent of the females and 97 per cent of the males earned less than $750 per year.[40]

In 1911–12 the Oklahoma Department of Labor reported that of 668 male wage-earners in the telephone and telegraph industry 27 per cent received less than $500; 78 per cent less than $750 and 95 per cent less than $1,000 per year. Of the 1,143 female workers employed in the same industry 17 per cent were earning under $250, 96 per cent under $500 and 99 per cent under $750.[41]

From reports compiled by the different State Bureaus of Labor, Nearing found the percentages of wages during the years 1911–12 as recorded below.

In 1913, Nearing, in his book *Financing the Wage Earner's Family* (p. 97), concluded from his examination of numerous reports and wage studies that:

| *State* | *Year* | *Percent Earned Less than $500* | *Percent Earned Less than $750* |
|---|---|---|---|
| California | 1911 | 7.7 | 30 |
| Iowa | 1912–13 | 12. | 61 |
| Massachusetts | 1912 | 28. | 67 |
| New Jersey | 1911 | 36. | 71 |
| Oklahoma | 1911 | 17. | 68[42] |

[36] *Income*, p. 95.
[37] *Report of the Tariff Board on Cotton Manufactures*, 62nd Congress, 2nd Session, House Document 643, Government Printing Office, 1912, Vol. II, 637–651.
[38] *Income*, pp. 91–92.
[39] *Report on The Strike of Textile Workers in Lawrence, Mass.*, Charles P. Neil, Senate Document 870, 62nd Session, 1912, p. 74.
[40] *Income*, p. 93.
[41] *Annual Report of the Department of Labor, Oklahoma*, 1911–12, p. 232.
[42] *Income*, p. 100.

The available data indicate that a man, wife, and three children under fourteen can not maintain a fair standard of living in the industrial towns of Eastern United States on an amount less than $700 a year in the Southern, and $750 a year in the Northern states. In the large cities where rents are higher, this amount must be increased by at least $100.

A joint investigation carried on during that year by the Consumers' League of Eastern Pennsylvania and the Department of Labor and Industry of that state, showed that the wages of women in Philadelphia department stores were as follows: 16.5 per cent received less than $5 per week, 63.8 per cent more earned between $5 and $10 and only 3.2 per cent received $15 or over per week.

The year following, Professor J. H. Hollander of Johns Hopkins University, estimated:

That in order to maintain a decent standard of living in the United States for an average family of five, an annual income of $600 to $700 is insufficient; that $700 to $800 requires exceptional management and escape from extraordinary disbursements consequent upon illness or death; and that $825 permits the maintenance of a fairly proper standard.[43]

An even higher estimate during the same year (1914) was set by the Bureau of Personal Service of the Board of Estimate and Apportionment of New York City, which declared $845 as the least minimum of subsistence for families of unskilled laborers in that city. The New York Factory Investigating Commission declared that $876 was the lowest minimum wage possible for the year 1914.

The actual earnings during this period were found by the Pennsylvania Department of Labor and Industry in a study of over 20,000 industrial establishments to have averaged $720 a year or $14.40 a week for all males—quite below the minimum standard set. The average annual wage for all females was $335 or slightly over $6 a week.

The total amount paid in wages in the states of Massachusetts and Pennsylvania in the year 1914 amounted to $869,262,517. The number of employes in these two states was 1,531,176 and the average wage per worker amounted to $568 per year.[44] The New York State Industrial Commission, which in that year began to compile figures of nearly 600,000 factory and office workers, found that the average weekly wage for the last six months of 1914 amounted to $12.48, which would give an annual wage of $648.96 if employed fifty-two weeks in the year.

In 1915 Lauck and Sydenstricker after a comprehensive study of wages and costs of living stated that four-fifths of the heads of families obtained less than $800 per year, while two-thirds of the female wage-earners were paid less than $400 per year. According to a statement of the Chamber of Commerce of Akron, Ohio, the 30,511 workers engaged in the rubber industry in that city received an average annual wage of $628 during the year of 1915.[45] In the same year the Pennsylvania Department of Internal Affairs, which keeps records of the total payroll amounts and the number of workers employed in that state, found that the average weekly wage per wage-earner (exclusive of salaried and office workers) amounted to $581.68. The New York Industrial Commission gave the average weekly wage received in that state during the year 1915 as $12.85, or $668.20 per year.

The weekly wages received during

[43] J. H. Hollander, *The Abolition of Poverty*, p. 9.

[44] David Friday, *Profits, Wages and Prices*, 1920, p. 102.

[45] *Ibid.*, p. 105.

the year 1915 throughout the United States in the various industries have been compiled by the Bureau of Applied Economics from the published surveys of the United States Bureau of Labor Statistics. These were found as follows in the different industries[46]:

| *Industry* | *Per Capita earnings per week—1915* |
|---|---|
| Boots and Shoes | $12.12 |
| Cotton finishing | 10.54 |
| Cotton manufacturing | 8.31 |
| Hosiery and underwear | 7.75 |
| Iron and steel | 11.76 |
| Men's ready-made clothing | 11.92 |
| Silk manufacturing | 8.99 |
| Woolen manufacturing | 9.70 |
| Car building and repairing | 13.20 |
| Cigar manufacturing | 9.33 |
| Automobile manufacturing | 17.23 |
| Leather manufacturing | 11.76 |
| Paper making | 13.20 |

An analysis of the standard of living in the District of Columbia by Professor Ogburn, for the Bureau of Labor Statistics in 1916, led him to conclude that:

> An average family of man, wife and three children, of ages 4, 6 and 8 years, in the District of Columbia in 1916 was in debt if the annual income was less than $1,155.[47]

During 1915–16, the average daily wage for males in many Pennsylvania establishments reported by the Department of Labor and Industry as working on war contracts was found to be only slightly higher in 1916 than in 1914, $2.76 in the latter year as against $2.40 in 1914. For females the rise reported was from $1.11 to $1.30. The average daily wage of males engaged in public service industries, such as street and steam railways, etc., was $2.55.[48] The average wage received by all wage-earners in Pennsylvania as given by the Department of Internal Affairs was $737.96 in the year 1916. Salaried and office workers were not included in this tabulation. In the rubber industry of Akron, Ohio, the average annual wage according to the Chamber of Commerce of that city amounted to $759 in 1916. The wages for that year as found by the New York State Industrial Commission were very similar. The average weekly wage was $14.43, or, if worked for fifty-two weeks in the year, $750.36 per year.

The year 1914 may be considered a landmark for both wages and costs of living. Since then money wages have increased in all industries. Even greater, however, has been the rise in the cost of living. Standards of living in terms of money wages need therefore considerable adjustment and a revaluation in purchasing power. According to the Pennsylvania Health Insurance Commission, the standard "minimum of subsistence" budget was estimated in 1914 as $845 by the Bureau of Personal Service of the Board of Estimate and Apportionment of New York City for unskilled laborer's families; $875 was the estimate made by the New York Factory Investigation Commission in 1914, and the $900 estimate by Dr. Chapin for a family of five in 1907 became in June, 1918, $1,320, $1,360 and $1,390 respectively. Similar estimates for 1918 were made by the Commission of the Interchurch World Movement in its Report on the Steel Strike.

The Philadelphia Bureau of Municipal Research stated in December, 1917, that the necessary minimum cost of healthful living for a family of two adults and three children was $1,200 a year. But in the autumn of 1918 it found $1,636.79 as necessary for a similar standard of living.

[46] *Wages in Various Industries*, 1919, p. 60, Bureau of Applied Economics, Washington.

[47] *Quarterly Publication of the American Statistical Association*, June, 1919, p. 16.

[48] *Pennsylvania Health Insurance Commission Report*, p. 91.

In November, 1918, the United States Bureau of Labor Statistics estimated that the minimum necessary for subsistence for an average family in a large eastern city was about $1,500. In the same year, the National War Labor Board drew up a "minimum comfort" budget which amounted to $1,760 per year for a family of five.[49]

It is interesting to note that the above estimates regarding the minimum budget necessary for subsistence, although showing some variation as would be expected, do not show considerable differences. However, in 1918 the United States Bureau of Labor Statistics made an investigation of the budgets of working families in a number of cities. The average actual expenditures of these families per year in the different cities investigated follows below.

In summarizing the data, the bureau found that of 12,096 white families investigated in 92 industrial centers scattered throughout the country comprising 4.9 average persons, the average yearly expenses per family was $1,434.36 in 1918.[50]

In the 1918 investigations of the Pennsylvania Commission on Health Insurance the following data is given:

> In the Philadelphia Survey which covered 1,850 families in seven districts in Philadelphia the average family income was but $21.60 a week, and almost a third of these families contained over five persons—the normal standard.
>
> In the Visiting Nurse Study, 80.6 per cent of the 438 families had incomes of less than $30.00 a week. In the Sickness and Dependency Study 94.3 per cent of the families had incomes of less than this amount.
>
> Wages for women, proverbially lower than those for men, proved in the Working Women's study to be in 93.1 per cent of the cases under $25.00 a week; in 92 per cent of the cases, under $20.00.

| *City* | *Number of Families Investigated* | *Average Persons in Family* | *Total Average Yearly Expense per Family* |
|---|---|---|---|
| Baltimore (White) | 195 | 4.8 | $1,260.96 |
| Boston | 407 | 5.3 | 1,438.13 |
| Bridgeport, Conn. | 143 | 4.6 | 1,540.24 |
| Buffalo | 256 | 4.6 | 1,460.00 |
| Chambersburg, Pa. | 77 | 4.9 | 1,241.90 |
| Dover, N. J. | 74 | 5.3 | 1,608.92 |
| Fall River, Mass. | 158 | 5.4 | 1,320.84 |
| Johnstown, N. Y. | 78 | 4.5 | 1,308.51 |
| Lawrence, Mass. | 109 | 5.3 | 1,504.67 |
| Manchester, N. H. | 112 | 5.2 | 1,370.83 |
| Newark | 147 | 4.7 | 1,445.41 |
| New York | 518 | 4.9 | 1,525.66 |
| Philadelphia and Camden, N. J. | 301 | 4.9 | 1,469.40 |
| Pittsburgh, Pa. (white) | 254 | 5.1 | 1,412.10 |
| Portland, Me. | 97 | 4.9 | 1,412.84 |
| Providence, R. I. | 158 | 5.3 | 1,303.18 |
| Rutland, Vt. | 80 | 5.1 | 1,264.29 |
| Scranton | 151 | 5.2 | 1,344.99 |
| Syracuse, N. Y. | 158 | 4.9 | 1,407.03 |
| Trenton, N. J. | 100 | 4.4 | 1,418.50 |
| Westfield, Mass. | 74 | 5.2 | 1,494.84 |
| Wilmington, Del. | 98 | 4.6 | 1,640.50 |

[49] *Pennsylvania Health Insurance Commission Report*, p. 94.
[50] *Labor Review*, August, 1919, p. 118.

In the Pittsburgh Factory Investigation, made in August–November, 1918, covering the work places of over 9,000 women, it was found that in 70 per cent of the operations the wages were between $5.00 and $15.00 per week. In only two processes were the weekly wages over $25.00.

In a study made by the Consumers' League in New York in 1916–17 among 417 women working in steam laundries, it was found that 78.3 per cent earned less than $10.00 a week, and almost half earned less than $8.00.

The Kensington Survey, which covered the most representative industrial group, showed that more than half—56.6 per cent of the 608 families—had incomes under $30.00 a week. Forty-two per cent were living on less than $25.00 a week.[51]

From July 1, 1914, to April 1, 1918, the wholesale prices of 46 essential commodities given in Bradstreet's Trade Journal showed a rise of 115 per cent. According to the Bureau of Labor Statistics, its study of the increase in the cost of living in shipbuilding centers in 1918 showed that the cost of living for white families had risen 67.17 per cent in August, 1918, over the cost in December, 1914, in Philadelphia; in New York it was 62.07 per cent in December, 1918, over December, 1914.

While the cost of living and prices have thus increased from 60 to 115 per cent, a study of the rise in wages made by H. S. Hanna and W. J. Lauck, led them to conclude[52]:

That the rise in wages between 1914–15 and December, 1917, or January, 1918, was only 18 per cent for anthracite miners; 26 per cent for machinists in the Philadelphia Navy Yard; 30 per cent for bituminous miners working by hand, and 34, 36 and 37 per cent respectively for shipbuilders, and pipe fitters in the Philadelphia Navy Yard. The rise in the building trades was 12 to 20 per cent. The wages in some industries had actually decreased, while some remained stationary.

During 1918 in a study of four blocks in Manhattan, wage figures for 377 families were obtained. The incomes of these families in 40 per cent of the cases showed increases between 1917 and January, 1918. In another 40 per cent no increase had come and in 20 per cent an actual decrease had been suffered. There were 574 wage-earners in these families; the wages of 31 per cent of these had increased; 57 per cent had had no increase and 12 per cent had had their wages decreased.[53]

The Thirty-Third Annual Report of Massachusetts on Statistics of Manufacture states that during the year 1918 the total disbursements in wages paid to labor amounted to $679,401,273. When compared with the year 1913 the increase in the total wages disbursed amounted to 93.4 per cent. However, the average yearly earnings for all wage-earners without distinction as to the age, sex or skill which in 1917 were $758.23 per capita, rose only to $944.65 per capita in 1918. Compared with 1913, when the per capita wage in manufacturing industries was $569.43, the increase amounts to 65.9 per cent.[54] During the year 1918, the average wage in Pennsylvania was $1,213.54. In the rubber industries in Akron, Ohio, it was $1,173 and in New York State $1,058.20—quite far below the actual family expenditures during that year as found by the United States Bureau of Labor Statistics in the different cities.

The administrative committee of the National Catholic War Council in its social reconstruction program in 1919 reached the conclusion that the average rate of pay has not increased as fast as

[51] *Health Insurance Report, pp.* 91–92.

[52] *Wages and the War, p.* 6.

[53] *Pennsylvania Health Insurance Commission Report, pp.* 91–92.

[54] *Thirty-Third Annual Report Statistics of Manufactures,* 1920, *p.* 11.

the cost of living. That this conclusion is fully justified and that a considerable number of wage-earners, both men and women, have not been receiving what is generally considered a living wage, even during the time when money wages were at their highest peak, is clearly indicated by the following recent investigations, which throw some additional light upon the continuous chase and struggle between increased prices and increased earning power.

In 1919, the National Industrial Conference Board, an organization composed of employers of labor, in an investigation of the cost of maintaining a minimum standard of living for a representative wage-earner's family of five, reached the conclusion that in Lawrence, Massachusetts, in order to maintain the lowest standard, $1,385.79 was required, or an average weekly income of $26.65 the year round. A more liberal standard which would make no provision for savings except such as were secured through insurance was found to require a yearly expenditure of $1,658.04, or a steady income of $31.88 per week.[55]

In August, 1919, the United States Bureau of Labor Statistics, in a study of budgets of government employes' families in Washington, D. C., set the standard necessary for the maintenance of a family of five in that city at $2,262.47.

The extent to which wages have increased during the same period is significant. The National Industrial Conference Board has recently published a report analyzing the wage changes in several important industries from 1914 to 1919. The average weekly earnings of male employes in the specified industries from 1914 to 1919 are given below.[56]

The figures in several instances show actual decreases between September, 1918 and March, 1919, and not a single group earned the minimum wage necessary for the support of a family with the most necessary comforts, as conservatively estimated by the employers' organization itself.

Early in 1919 the United States Bureau of Labor Statistics conducted extensive wage studies in a number of industries throughout the country. Some of its findings are presented on page 183.[57]

It is of interest to note that the figures here show that a living wage was obtained in only one industry, the women's clothing industry, which is now thoroughly organized, and which only a few years ago was one of the most underpaid industries.

| *Industry* | *Sept. 1914* | *Sept. 1915* | *Sept. 1916* | *Sept. 1917* | *Sept. 1918* | *March 1919* |
|---|---|---|---|---|---|---|
| Boots and shoes | $14.70 | $15.33 | $16.60 | $19.36 | $24.04 | $25.90 |
| Chemical manufacturing | 12.85 | 13.26 | 16.10 | 20.50 | 26.80 | 26.20 |
| Cotton " | 10.00 | 10.05 | 11.85 | 14.22 | 20.60 | 17.10 |
| Metal " | 13.18 | 14.90 | 17.22 | 20.09 | 26.80 | 24.75 |
| Paper " | 12.75 | 12.75 | 15.03 | 19.03 | 22.40 | 22.40 |
| Rubber " | 14.00 | 14.95 | 18.60 | 22.80 | 22.60 | 29.35 |
| Silk " | 11.77 | 12.66 | 14.10 | 15.50 | 21.54 | 22.69 |
| Wool " | 11.52 | 11.05 | 13.51 | 16.97 | 23.21 | 18.61 |

[55] *The Cost of Living Among Wage-Earners*, Lawrence, Massachusetts, 1919; National Industrial Conference Board, Boston.

[56] *War Time Changes in Wages*, Sept., 1914, March, 1919, National Industrial Conference Board, 1919.

[57] *Labor Reviews*, April, 1920, *pp.* 100–104; March, 1920, *pp.* 83–86; Feb., 1920, *pp.* 106–113; May, 1920, *pp.* 92–107; and June, 1920, *pp.* 82–84.

| *Industry and Occupation* | *Average Actual Earnings per Week for Male Employes* | *Average Actual Earnings per Week for Female Employes* |
|---|---|---|
| Paper Box manufacturing | $19.40 | $11.05 |
| Women's Clothing manufacturing | 35.11 | 15.95 |
| Confectionery manufacturing | 18.45 | 10.08 |
| Overall manufacturing | 25.02 | 12.06 |
| Cigar Industry | 20.84 | 15.54 |
| Men's Clothing Industry | 24.79 | 14.75 |
| Hosiery and Underwear | 20.80 | 12.98 |
| Silk manufacturing | 22.79 | 15.29 |
| Brick manufacturing | 20.00 | ..... |
| Chemicals manufacturing | 20.90 | 12.35 |
| Glass manufacturing | 22.66 | 19.38 |
| Leather manufacturing | 26.03 | 13.40 |
| Paper and pulp manufacturing | 26.47 | 13.44 |
| Pottery manufacturing | 26.60 | 13.37 |
| Rubber manufacturing | 27.04 | 14.95 |
| Automobile manufacturing | 25.87 | 16.98 |
| Car manufacturing | 26.79 | ..... |
| Electrical Apparatus manufacturing | 25.53 | 15.30 |
| Foundry manufacturing | 26.28 | 12.66 |
| Machine manufacturing | 26.95 | 12.90 |
| Machine Tool manufacturing | 26.74 | 16.62 |
| Typewriter manufacturing | 26.77 | 14.67 |

The 1919 Industrial Survey made by the United States Bureau of Labor Statistics covered 2,365 establishments, 28 industries scattered through 43 states, 780 different occupations, including a total of 404,758 employes. These investigations[58] disclosed that of the 318,946 men workers 151,725, or 47.5 per cent, earned less than 50 cents an hour. As the average number of hours per day was found to have been 7.6, at least half of the male workers earned less than $22.80 per week. The average weekly wage for all was $25.58. In the case of the women workers, of the 85,812 persons investigated, 47,917 or 54.75 per cent earned less than 30 cents per hour. The average number of hours here was 7.5 per day, which means that more than half of the female workers earned less than $13.50 per week. The average weekly wage for all was $13.54.

[58] *Industrial Survey in Selected Industries in the United States in 1919, Bulletin No. 265, p.* 37–38, May, 1920. United States Bureau of Labor Statistics.

The 1919 minimum wage standards for women workers in the states that have established such were as follows: District of Columbia (mercantile trade) $16.50; California $13.50; Washington $13.20; Massachusetts (candy occupations) $12.50; and Kansas $11.00. In 1918–19 the wage investigations of the Massachusetts Minimum Wage Commission showed that from 57 to 98 per cent of the women workers investigated in five industries in that state earned less than $11.00 per week. In New York the minimum weekly budget set for a single working woman in 1919 was $16.13. Studies of 500 working girls chosen at random by the New York State and City Consumers' Leagues early in 1920 showed that 443 or 88 per cent of the girls investigated received less than $16.00 per week. While the cost of living in 1919 increased about 83 per cent, 29 per cent

of the women investigated reported no wage increase during the same year.[59]

In December, 1919, the Bureau of Labor Statistics published a complete study of wages and hours of labor in the coal mining industry as found in the early part of that year. This study included 551,646 workers throughout the United States. The actual earnings of these miners in the bituminous fields as studied during one-half month pay roll by states is given as follows[60]:

AVERAGE ACTUAL EARNINGS IN BITUMINOUS MINES IN ONE-HALF MONTH PAY-ROLL PERIOD BY STATES

| *State* | *Hand Miners* | *Machine Miners* | *Loaders* |
|---|---|---|---|
| Alabama | $40.41 | ...... | $45.88 |
| Colorado | 47.42 | $73.73 | 50.65 |
| Illinois | 47.72 | 61.02 | 51.03 |
| Indiana | 36.47 | 55.79 | 40.02 |
| Iowa | 43.37 | 52.55 | 34.17 |
| Kansas | 42.75 | ...... | ...... |
| Kentucky | 34.39 | 58.62 | 40.42 |
| Maryland | 50.57 | | |
| Missouri | 36.42 | 43.27 | 42.86 |
| New Mexico | 52.12 | 36.45 | 50.80 |
| Ohio | 63.56 | 86.86 | 58.40 |
| Oklahoma | 53.82 | 50.66 | 48.53 |
| Pennsylvania | 57.49 | 72.02 | 55.21 |
| Tennessee | 34.08 | 26.25 | 33.36 |
| Utah | 57.66 | 92.07 | 57.95 |
| Virginia | | 52.66 | 38.93 |
| West Virginia | 52.58 | 71.90 | 47.53 |
| Wyoming | 57.09 | ...... | 45.85 |
| *Total* | 47.12 | 67.58 | 50.51 |

In the case of the anthracite miners, the average earnings made in one-half month pay-roll period in 1919 are given as follows: Inside occupations averaged $65.17 while those engaged in outside occupations averaged $55.37 per two weeks pay roll.[61] The figures presented by the operators to the Coal Commission in 1920, and which were greatly disputed by the representatives of the miners, showed that the average wage of 68,416 miners examined in 1918 was $1,422, but declined to $1,234.44 in 1919. The miners presented figures of much lower averages.

The Bureau of Labor Statistics also keeps records of the changes in union wage scales. The year 1913 is taken as the basis of the index and set at 100. Accordingly the rates of wages per full-time week are presented as follows[62]:

| | |
|---|---|
| 1913 | 100 |
| 1914 | 102 |
| 1915 | 102 |
| 1916 | 106 |
| 1917 | 112 |
| 1918 | 130 |
| 1919 | 148 |
| 1920 | 189 |

[59] *Women's Wages Today,* Feb., 1920. Consumer's League of New York State and New York City.

[60] *Labor Review,* Dec., 1919, *pp.* 207–229.

[61] *Labor Review,* Dec., 1919, *pp.* 207–229.

[62] *Labor Reviews,* February, 1920, *p.* 117; March, 1921, *p.* 64.

Further compilations of increases in union rates of pay per hour from 1914 to 1919 in the building trades in about thirty cities in the United States were made by the Bureau of Applied Economics.[63] The increases experienced as given by the international unions concerned were as follows:

| *Occupation* | *Per Cent of Increase from 1914 to 1919* |
|---|---|
| Bricklayers | 30.9 |
| Carpenters | 53.9 |
| Cement workers and finishers | 36.3 |
| Inside wiremen | 51.4 |
| Painters | 60.8 |
| Plasterers | 32.2 |
| Plumbers | 50.0 |
| Sheet metal workers | 56.2 |
| Steam fitters | 51.6 |
| Structural iron workers | 51.7 |

In the case of the dress and waist industry the increase in wage rates amounted to 52.8 per cent from 1916 to 1919,[64] while in the case of linotype operators the increase from 1914 to 1919 constituted only 24.2 per cent, and for compositors, both newspaper, book and job work, the increase amounted to approximately 32 and 33 per cent respectively.[65]

The Interchurch World Movement Report on the steel strike concludes that:

The annual earnings of over one-third of all productive iron and steel workers were, and had been for years, below the level set by government experts as the minimum of subsistence standard for families of five.

The annual earnings of 72 per cent of all workers were, and had been for years, below the level set by government experts as the minimum of comfort level for families of five.

This second standard being the lowest which scientists are willing to term an "American standard of living," it follows that nearly three-quarters of the steel workers could not earn enough for an American standard of living. The bulk of unskilled steel labor earned less than enough for the average family's minimum subsistence; the bulk of semi-skilled labor earned less than enough for the average family's minimum comfort.

In 1918, the unskilled worker's annual earnings were more than $121 below the minimum of subsistence level and more than $495 below the "American standard of living" for families.

In 1919, the unskilled worker's annual earnings were more than $109 below the minimum of subsistence level and more than $558 below the "American standard of living."[66]

In January, 1920, Professor Ogborn presented to the Bituminous Coal Commission, a minimum budget necessary for a miner's family, at $2,118.94 a year. About the same time the United States Bureau of Labor Statistics, at the request of the Bituminous Coal Commission, in a study of a number of mining towns in Pennsylvania, West Virginia, Ohio, Indiana, and Illinois found the budget varying from $2,044.39 to $2,162.65. According to the same bureau the index of wholesale prices for all commodities in the United States when taken at 100 for January,

[63] *Wages in Various Industries*, p. 13, 1919, Bureau of Applied Economics.

[64] *Ibid.*, p. 30.

[65] *Ibid.*, p. 47–48.

[66] *Report of the Steel Strike of 1919.* Commission of Inquiry Interchurch World Movement, pp. 12–13–14.

1913, had risen to 272 in May, 1920, an increase of almost 200 per cent.

On the basis of these budgets and increase in prices, Mr. W. Jett Lauck, a competent authority, declared in May, 1920, before the United States Railway Labor Board that "not a penny less than $2,500 a year was the minimum necessary for a family of five to maintain itself, even in decent poverty."

The National Industrial Conference Board declared recently that the cost of living of American wage-earners has increased 104.5 per cent between July, 1914 and July, 1920. The United States Bureau of Labor Statistics states that its investigations in a number of industrial centers show that the prices of the essential items making up the family budget have increased from December, 1914 to June, 1920, as follows[67]:

| | |
|---|---|
| Baltimore | 114.3 |
| Boston | 110.7 |
| Buffalo | 121.5 |
| Chicago | 114.6 |
| Cleveland | 116.8 |
| Detroit | 136.0 |
| Houston | 112.2 |
| Jacksonville | 116.5 |
| Los Angeles | 101.7 |
| Mobile | 107.0 |
| New York City | 119.2 |
| Norfolk | 122.2 |
| Philadelphia | 113.5 |
| Portland, Maine | 107.6 |
| Portland, Oregon | 100.4 |
| San Francisco and Oakland | 96.0 |
| Savannah | 109.4 |
| Seattle | 110.5 |
| Average for all cities | 112.7 |

Thus taking the various estimates into consideration, it would seem most conservative to state that during the first six months of 1920, at which time prices reached their peak, it required at least between $1,800 and $2,000 a year, or approximately between $35 and $40 a week the year round to support a family of five with the necessities of life.

In view of this it may be of value to examine a few more wage statistics collected during the year 1920.

In a recent report issued by the New York City Board of Estimate and Apportionment, the comparative rates of wages paid by New York City are given from January 1, 1916 to January 1, 1920. Of the 57 trades enumerated, only one—the painters—show an increase of 100 per cent on the last date. In 25 more trades the increase amounts to 50 per cent or over, while in 31 of the trades the increase amounts to less than 50 per cent.

The Massachusetts Commission on the necessaries of life found that in June, 1920, the cost of living in Massachusetts when based on corresponding prices in 1913, had increased 99.7 per cent. At the same time a comparison of the hourly rates of wages in 213 trades in Boston, at the close of June, 1914, with those at the close of June in 1920, showed that the average hourly rates in these trades had increased only 83.5 per cent during the six-year period.[68] It must be noted, however, that in many of these trades there was found a reduction in the basic number of hours worked per week, with a consequent reduction in the weekly rates of wages. When these were taken into consideration, the Massachusetts Department of Labor and Industries found that the average weekly wages had actually increased only 72.7 per cent as against 99.7 per cent increase in the cost of living during the same period.

The October, 1920 *Review* published by the United States Bureau of Labor Statistics presents a detailed study of the union scales of hourly wage rates throughout the country. These cover

[67] *Labor Review;* September, 1920, *pp.* 75–80.

[68] *Massachusetts Industrial Review,* Vol. I, No. 2, *p.* 4, July, 1920.

many industries and their rates of wages paid are given for each year from 1913 to 1920. A comparison of the hourly wage rates paid in May, 1914 and May, 1920 in the nineteen cities for which the rise in the cost of living has been given in the preceding page is herewith presented[69]:

| *Occupation* | *Per Cent Increase from May, 1914 to May, 1920* |
|---|---|
| Blacksmiths | 102.2 |
| Boiler makers | 112.2 |
| Bricklayers | 69.0 |
| Building laborers | 136.2 |
| Carpenters | 94.5 |
| Cement finishers | 84.8 |
| Compositors, book and job | 87.6 |
| Compositors, newspapers | 57.0 |
| Electrotypers, finishers | 79.3 |
| Electrotypers, molders | 78.3 |
| Granite cutters | 92.0 |
| Hod carriers | 128.7 |
| Inside wiremen | 98.3 |
| Linotype operators, book and job | 63.9 |
| Linotype operators, newspaper | 54.0 |
| Machinists | 112.4 |
| Molders, iron | 130.6 |
| Painters | 106.6 |
| Plasterers | 70.2 |
| Plasterer's laborers | 106.2 |
| Plumbers | 70.5 |
| Sheet-metal workers | 95.5 |
| Stone cutters | 84.7 |
| Structural, iron workers | 79.0 |
| Average of all Trades | 99.7 |

In March, 1920 the respective earnings of anthracite miners, including both inside and outside occupations during a one-half month pay-roll, was $68.56 and $55.81.[70]

In a recent report published by the United States Labor Board[71] a comparison of the average daily and monthly earnings of all classes of railroad employes is presented. (1) As of December, 1917 (under private control); (2) January, 1920 (under the United States Railroad Administration); and (3) July, 1920 (under the last decision of the United States Labor Board). The number of employes and the actual wages earned are tabulated on page 188.

The average weekly wage of factory workers in New York State reported by the New York State Industrial Commission, amounted to $24.41 per week in October, 1919, $27.87 in April, and $28.73 in September, 1920,—nearly $10 per week less than was conservatively considered the minimum necessary for the maintenance of an American standard of living.

Taking the most conservative estimate given for 1919 as that of $1,500, this means $28.85 per week or practi-

[69] *Monthly Labor Review*, Oct., 1920, *p.* 79–92.
[70] *Labor Review*, Dec., 1919, *p.* 207–229.
[71] Average daily and monthly Wage Rates of Railroad Employes on Class 1 carriers. *Wage Series Report 1*, August, 1920.

AVERAGE WAGE RATES FOR RAILROAD EMPLOYES

| *Occupation* | *Number of Employes* | *Average Wage December, 1917* | *Average Wage January, 1920* | *Average Wage July, 1920* |
|---|---|---|---|---|
| Supervisory forces | 12,634 | $148.57 | $230.21 | $259.03 |
| Maintenance of way and unskilled labor forces | 585,625 | 54.92 | 84.08 | 103.53 |
| Shop employes | 455,776 | 89.87 | 128.64 | 154.78 |
| Telegraphers, telephones and agents | 77,646 | 67.57 | 115.87 | 135.66 |
| Engine service employes | 136,952 | 124.52 | 180.98 | 218.80 |
| Train service employes | 189,905 | 108.66 | 160.07 | 199.52 |
| Stationary department employes | 8,000 | 55.59 | 97.00 | 122.40 |
| Signal department employes | 15,000 | 84.15 | 130.27 | 155.77 |
| Marine department employes | 834 | 127.65 | 166.01 | 194.46 |
| Clerical and station forces | 354,400 | 66 04 | 98.53 | 121.89 |
| Grand total | 1,836,772 | $77.93 | $115.82 | $141.28 |

cally $5.00 a day every working day in the year as the minimum wage necessary to maintain John Doe, his wife and three little Does. *The Survey*[72] gives the following analysis of the meaning of this wage.

Suppose John Doe pays $3.50 weekly for rent—certainly not a high rate; at least $13.00 will be required for food—an allowance adequate only with the most careful management on the part of Mrs. Doe. For clothing at least $6.75 weekly will be needed; light and fuel with only the kitchen stove will cost at least $1.50 weekly on an average throughout the year; carfares if Doe has to ride to work, will cost at least $1.20 weekly; miscellaneous articles for the household $1.15, a total of $27.10. This leaves a balance of $1.75 for church, newspapers, ice-cream cones, hair-cuts, etc., for five persons; and the list will probably include insurance as well, for most families like the Does will buy industrial insurance.

If everything goes on smoothly, and if Mrs. Doe is a careful planner, it may be possible for the Does to get on with this budget. The allowance for food and clothing is scant, however; the margin for recreation and sundries is painfully small, and there is no provision for accident or sickness. But suppose a small accident occurs, or a sudden need arises,—the kitchen stove gives out and a new one is necessary; the winter snow comes and several pairs of shoes must be purchased in one week and Doe himself must have an overcoat! The temptation becomes overwhelming to turn to the ever-ready credit companies and mortgage the future for the relief of the present. It is fairly well understood that the credit companies offer goods which, if of good quality, are sold at high prices, and that trading with them is conducive to extravagant purchases; and yet it is hard to see how many families like the Does would manage an extra expenditure of $25.00 or more were it not for some such expenditure. As a matter of fact, there are comparatively few of the families coming for the first time to the charities for assistance, who are not involved in some way with credit companies or are not struggling to meet weekly payments on debts.

Now suppose a real calamity befalls the Does; for example, little John falls ill, showing signs of tubercular infection. Any margin after such expenses as are noted above will not go far in securing the a. ndance of the private physician, althougl the family we are considering is one which should be independent; if they seek free medical service they make their first appeal

[72] *The Survey*, March 27, 1920, pp. 801–802.

to charity—and then, too, expenses presently increase. Carfares for mother and Johnnie to the dispensary are forty cents a trip, admission to the clinic ten cents more. Suppose they have to go twice weekly, one dollar is gone. Medicines may easily cost another dollar. The doctor prescribes milk and eggs, oranges, green vegetables, warmer coverings, etc. As a result Mr. John must try to cut down somewhere, though cutting seems impossible, and father, mother and the well children all suffer that the invalid may have extra nourishment.

Of course, the natural increase of the family has the same results, for the extra cost of pregnancy and confinement and an additional member of the family, are seldom accompanied by an increase of wages. Perhaps the Does should realize they can't afford to have any more children—but somehow they don't realize it; and then there are many reasons why they are not deterred from adding to their little brood. Indeed, are there not certain prevailing notions abroad that it is a work of good citizenship and service to the state for normal people in good health to rear good-sized families? Moreover the statistician tells us that "The average number of children per family which must be born in order that the stock may maintain itself without increase or decrease, is close to four."

Those who are not working by the day are apt to overlook certain differences between their lot and that of the lower paid workman on piece work or a daily wage. If the salaried man falls ill or meets with an accident his income, as a rule, goes on to a greater or less extent, but with the wage-earner the tendency is otherwise; he is usually paid only when actually at work. In case of accident or occupational disease, workmen's compensation will, it is true, give him two-thirds of his pay; but he has to wait ten days before compensation begins and another week before the first payment comes, and many families haven't even that margin. Moreover, when full wages barely suffice, how long can the family subsist on two-thirds? Sometimes there is a benefit association which assures weekly payments for a time, but often there are no such resources. Relatives are not to be counted on, for their margin, if they have any, is slender. Landlords are less lenient than formerly, and grocers are wary of extending credit which tends to become a thing of the past. Under stress, therefore, John Doe's family and others like them are forced, though perhaps much against their will, to the first step towards dependency.

It should be remembered that the John Does are an average, respectable family,—a healthy, industrious man without bad habits; a frugal, healthy woman; children in number no more than a couple having ordinarily felt that they should be able to rear; none of them with marked physical weakness. And yet actual experience shows that any one of the accidents to which they are liable, often throws such people, within a week or two, on charity. Moreover, it should be noted that their budget offers no opportunity for savings and that no provision for old age is feasible; such people face at all times the possibility, even the probability, of becoming a burden on the community when their working days are over. Such are the ordinary hazards in the life of a normal family of five living on daily wages of five dollars.

The wage investigations discussed in the preceding pages are significant. It is patent that despite the tremendous increase in wages experienced during the last six years, only few classes of wage-earners have succeeded in keeping pace with the increased cost of living. In the case of many workers, especially the skilled ones, the purchasing power of their increased wages for a full-time week in 1920 was considerably less than it was in the prewar days. And if the great mass of workers, as was seen in the early part of this article, did not receive what is authoritatively considered an American living wage before the present advance in prices had begun, their standards at the present time are necessarily lower.

As this article is in preparation, the newspapers are filled with announcements of wage reductions from all parts of the country, ranging from 20 to over 40 per cent. No definite estimate of

the cost of living at this time (December, 1920) is available.[73] While the Bureau of Labor Statistics reports that the index of wholesale prices in the United States, which, when taken at 100 in 1913, reached 272 in May, 1920, its high water mark, declined to 242 in September, 1920, the latest date for which figures are available, it also states that from September, 1919 to September, 1920 only farm products and clothing witnessed decreases of seven and nine per cent respectively. "In all other groups," declares the bureau, "there was an increase between these two dates,—food advancing approximately 5¾ per cent, miscellaneous commodities 10 per cent, metals 20 per cent, chemicals and drugs 28 per cent, building materials 40 per cent, house-furnishing-goods 42 per cent, and fuel 57 per cent in average price. All commodities, considered in the aggregate, increased 10 per cent.[74]

The significance of the above disclosures needs no further comment. During the last six years the workers in the United States were in as favorable a position as they are not likely, from present indications, to enjoy in many years. The war years witnessed a period of the most intense industrial activity. Great numbers of workers were withdrawn into the military service and immigration was practically suspended. Everywhere there were more jobs than men to fill them. In spite of these favorable conditions, the above statistics seem to indicate that the lot of the wage-earners witnessed little material improvement regarding the relation between the cost of living and wages. The facts available seem to bear out the contention that wages are last to follow the rise in prices and are first to come down when the slump begins.

[73] The most recent figures as to what constitutes a minimum "health and decency budget" for a family of five have just been made public by the Labor Bureau, Inc., New York City. As a result of cost of living surveys conducted in 1921 in New York City and Philadelphia, the above bureau estimates the annual minimum standard necessary for a family of five as $2,233.99 in New York City, and $2,338.20 in Philadelphia.

The bureau's estimate is based on the "quantity budget," used by the United States Bureau of Labor Statistics. They estimate that $698 a year is needed for food, $398 for clothing, $443 for rent, $83 for light and heat, $59 for household equipment and $650 for miscellaneous expenses.

"The family is allowed no expenditures for books and magazines," says the bureau's statement, "only one daily paper is included. The doctor's bill cannot exceed $80 a year for the whole family, and the boy of 12 can get but eight hair-cuts a year. The husband is allowed one-half and the wife one-third of an overcoat each year. The only amusements permitted are an occasional cheap movie show. No allowance is made for a trip or vacation outside the city."

[74] *Labor Review*, Nov., 1920, p. 49.

# Book Department

Lockey, Joseph Byrne. *Pan-Americanism–Its Beginnings.* Pp. 503. Price, $4.00. New York: The Macmillan Company, 1921.

In preparing this volume, Professor Lockey has done a real service to the students of American affairs. He has set forth in greater detail than has been done heretofore, the establishment of the continental policy of the United States. This volume brings the analysis of American foreign policy down to the year 1830, thus covering an important epoch of the formulation of the Monroe Doctrine. The author has done his work thoroughly, with a wealth of documentation that will make this volume indispensable to every student of foreign relations.

Professor Lockey's method of treatment is especially illuminating in dealing with the period of Hispanic-American independence. Many of the circumstances attending this movement, which have heretofore seemed vague and uncertain, are cleared up by the author who, in doing so, shows a grasp of principle and a mastery of detail which set a standard in historical writing.

L. S. Rowe.

*Pan American Union.*

Chafee, Zechariah, Jr. *Freedom of Speech.* Pp vii, 431. New York: Harcourt, Brace and Co. Price, $3.50 net, by mail $3.64. 1920.

In an authoritative manner well supported by citations and footnotes, this book discusses such topics as: The Espionage Acts of 1917 and 1918; the machinery of the Espionage Acts; the court decisions thereunder; the State Espionage Acts; *The United States* v. *Jacob Abrams* as a typical contemporary state trial; the normal law against violence and revolution; peace time sedition laws; the deportations; John Wilkes and his successors; and freedom and initiative in the schools. In the appendix is a good bibliography on freedom of speech, an index of reported cases, the text and construction of the Espionage Act of 1918, and the state, war and peace statutes affecting freedom of speech.

The invigorating fact about this volume is that a professor in a leading American University should take the time necessary to write such a book. Freedom of discussion is not solely freedom from negative prohibitions. The test of freedom of discussion is discussion. Academic freedom particularly must have as its proof, not academic silence but a free discussion of timely issues by those in academic circles. The greatest single tribute that can be paid to Harvard, greater than that of its high standards of scholarship and of research, is that the Harvard environment itself is such that a professor can feel at home in making researches into such matters as represented by this book. President Lowell stands out as one of the greatest of our university presidents just because he has throughout his administration, an administration vexed with years of domestic and international turmoil, preserved not only the technicalities of academic freedom but has kept for his institution, as so many universities the world over have not, an atmosphere wherein his faculty may feel at home in discussing important contemporary problems freed from the untoward influence of over-wrought individuals, whether they be alumni or others.

Clyde L. King.

*University of Pennsylvania.*

Beman, Lamar T. *The Closed Shop.* Pp. xlvii, 197. Price, $1.80. New York: The H. W. Wilson Company. 1921.

This volume of the "Handbook Series" of the above company is a compilation of material on the "open" and "closed shop" controversy. It was prepared for debaters and contains a bibliography of books, pamphlets, briefs, debates and periodical references. The material, which consists largely of pamphlet and periodical excerpts, is arranged under an affirmative and negative discussion.

A. H. Williams.

*University of Pennsylvania.*

SHEFFERMAN, NATHAN W. *Employment Methods.* Pp. xx, 573. Price, $5.00.
KELLY, ROY W. *Training Industrial Workers.* Pp. xxl, 457. Price, $5.00.
BLOOMFIELD, DAVID. *Labor Maintenance.* Pp. xvll, 530. Price, $5.00. New York: The Ronald Press Company, 1821.

To quote the publisher, these books are planned to "give a comprehensive unified presentation of the three aspects of labor management: securing workers, training them, and holding them by maintaining satisfactory working conditions." Such a division of the subject is functional rather than administrative and, as worked out by the authors, involves some duplication.

The first volume treats of that portion of the field of personnel administration usually included under the employment function. It is divided into five parts, the first three of which cover the place and scope of the employment department, sources of supply, selection and placement methods, and transfers and promotions. Part Four deals with the same phases for offices, stores and banks. Part Five is a duplication of the field covered by Mr. Bloomfield's book.

Mr. Kelly's work covers the subject of industrial training in its broadest aspects. An introductory discussion of the need for training and the inadequacy of present-day methods is followed by an historical treatment of the development of these methods. The technical and vocational training programs of secondary public schools are next discussed and evaluated. Training within the factory is covered by chapters dealing with modern apprenticeship plans, vestibule schools, and courses for minor executives and foremen. Finally, the relationship of training to systematic plans for transfers and promotions and the educational value of shop committees and collective bargaining is developed. A discussion of the possibilities of and responsibility for adequate industrial education concludes the work.

*Labor Maintenance* is a survey of those phases of personnel administration included under the broad term, "service works." The need and proper basis for the development of such work, as well as the internal organization and relative place of the service department, is presented. Health and safety work, recreational activities, plant publications, cafeteria management, industrial housing, training plans, mutual benefit and group insurance plans, and profit sharing form the bulk of the subject matter of the book.

The material in *Training Industrial Workers* is not well arranged and all three books contain too many unenlightening details concerning the specific plans of various companies.

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